**ERVCRSVB1100, ERVCRSHB1100**
**HRVCRSVB1100, HRVCRSHB1100**

# Energy Recovery Ventilator
# Heat Recovery Ventilator

# Installation Instructions

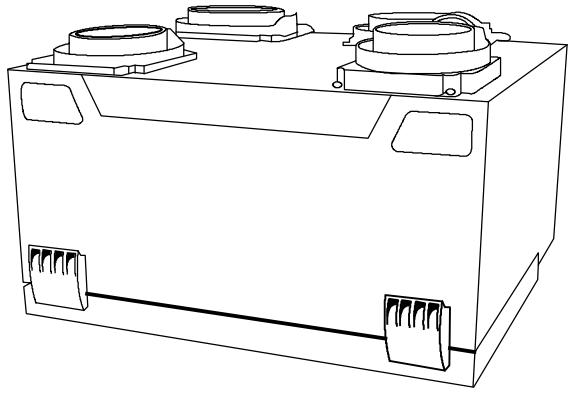

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**Fig. 1 - ERV/HRV Unit (Top Port)**

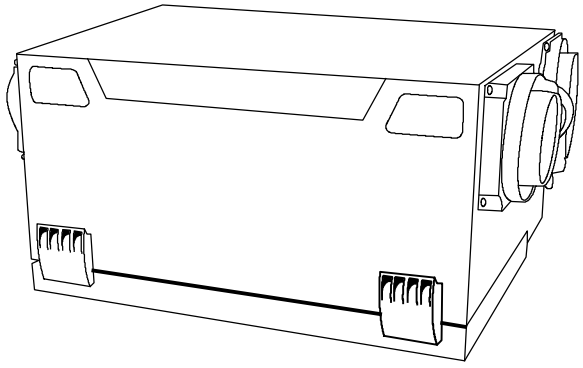

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**Fig. 2 - ERV/HRV Unit (Side Port)**

**NOTE**: Read the entire instruction manual before starting the installation.

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## SAFETY CONSIDERATIONS

Improper installation, adjustment, alteration, service, maintenance, or use can cause explosion, fire, electrical shock, or other conditions which may cause death, personal injury or property damage. Consult a qualified installer, service agency, or your distributor or branch for information or assistance. The qualified installer or agency must use factory–authorized kits or accessories when modifying this product. Refer to the individual instructions packaged with kits or accessories when installing.

Follow all safety codes. Wear safety glasses, protective clothing and work gloves. Have a fire extinguisher available. Read these instructions thoroughly and follow all warnings or cautions included in literature and attached to the unit. Consult local building codes and the current editions of the National Electrical Code (NEC) NFPA 70.

In Canada, refer to the current editions of the Canadian Electrical Code CSA C22.1.

Recognize safety information. This is the safety–alert symbol ⚠. When you see this symbol on the unit and in instruction manuals, be alert to the potential for personal injury.

Understand the signal words **DANGER**, **WARNING**, and **CAUTION**. These words are used with the safety–alert symbol. **DANGER** identifies the most serious hazards which **will** result in severe personal injury or death. **WARNING** signifies hazards which **could** result in personal injury or death. **CAUTION** is used to identify unsafe practices which **may** result in minor personal injury or product and property damage. **NOTE** is used to highlight suggestions which will result in enhanced installation, reliability, or operation.

**Table 1 – Solid State Speed Control Device**

| UNIT | CONTROL |
|---|---|
| HRVCRSVB1100<br>HRVCRSHB1100<br>ERVCRSVB1200<br>ERVCRSHB1200 | One Touch main wall control |
| | Standard main wall control |
| | Basic main wall control |
| | Latent wall control |
| | 20 minute timer |

# INTRODUCTION

The Energy/Heat Recovery Ventilator (ERV/HRV) is used to exchange indoor stale air with outside fresh air. The unit is equipped with a special energy/heat recovery core which transfers both sensible and/or latent heat between the fresh incoming air and stale exhaust air. The cross–flow design core allows entering and leaving air streams to transfer heat and/or latent energy without mixing. See Fig. 3.

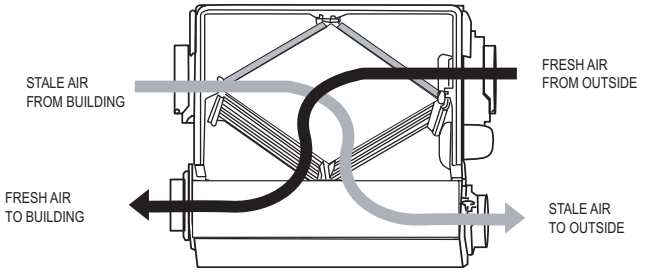


**Fig. 3 - ERV/HRV Airflow During Air Exchange (Bottom view with access door removed)**

The model operates at 2 airflows, 50 CFM in low speed and 100 CFM in high speed. This unit comes in two configurations, vertical or horizontal. Special attention should be given to duct application, balancing the ERV/HRV, and locating unit for easy access and routine maintenance.

# INSTALLATION CONSIDERATIONS

## Inspect Equipment

Move carton to final installation location. Remove ERV/HRV from carton taking care not to damage unit. Remove all packaging and inspect unit for damage. Remove parts bag from inside unit. File claim with shipping company if shipment is damaged or incomplete. Check to make sure ERV/HRV unit matches Fig. 1 or Fig. 2.

## Select Location

The ERV/HRV **should be located in a conditioned space** and in close proximity to a fused power source. It should be easily accessible for routine maintenance.

If ERV/HRV is installed independent of a forced–air system, unit should be located near the center of the air distribution system. If ERV/HRV is installed in conjunction with a forced–air system, unit should be located next to (or close to) the indoor equipment.

# COMPONENT DESCRIPTION

The following listed items are components of ERVCCSHA. See Fig. 4.

1. Exhaust–air connected to outdoor air exhaust hood.
2. Fresh–air intake connected to outdoor air inlet hood.
3. Fresh–air supply from ERV connected to return–air duct of forced–air system.
4. Mechanical filters trap dust contained in the air.
5. HRV cores are cross–flow. ERV cores are counter–flow. The cores transfer heat and energy between the two air streams.
6. Blowers bring in fresh–air from outside and exhaust stale–air to outside.
7. Electronic control circuit ensures proper unit operation.
8. Stale air return from building connected to return–air duct system.

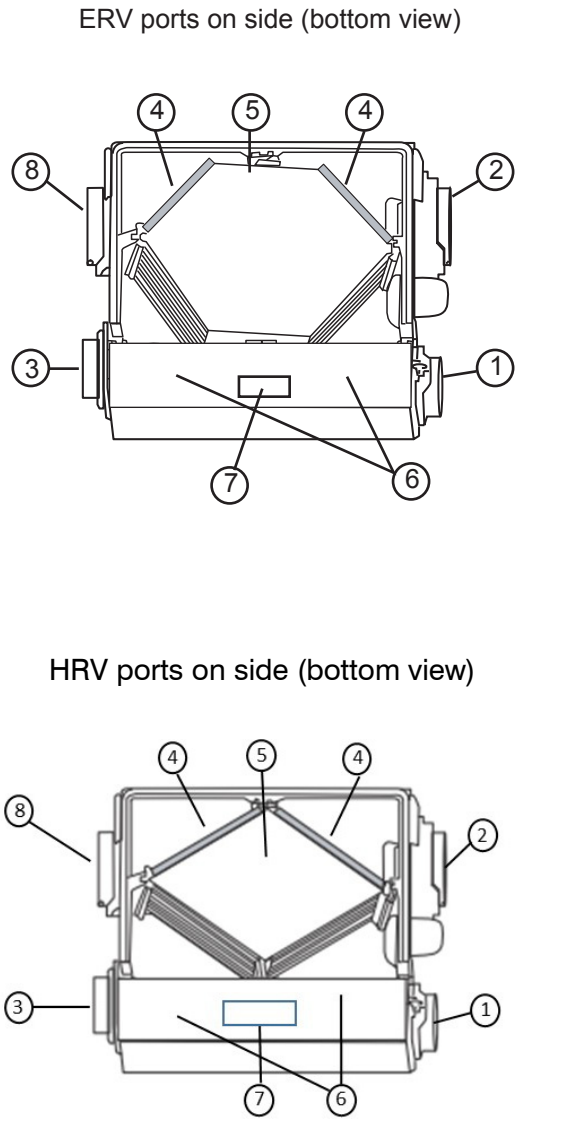


**Fig. 4 - Component Identification**

## UNIT INSTALLATION

**⚠ CAUTION**

**UNIT DAMAGE HAZARD**

Failure to follow this caution may result in equipment damage or improper operation.

Do not install ERV/HRV in a corrosive or contaminated atmosphere.

### Mount Unit

The ERV/HRV can be suspended from floor joists using chains and 4 springs. Attach metal hanging bracket to all 4 sides of cabinet. See Fig.5. The unit may be installed on a shelf if an isolation pad is provided to dampen vibration. Unit should always be installed as level as possible.

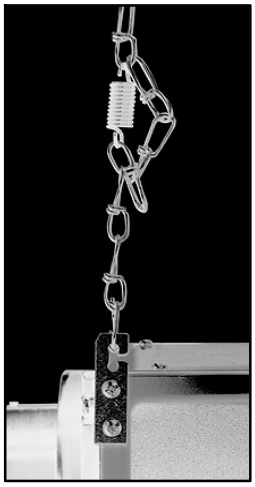

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**Fig. 5 - Chain Spring Installation**

### Independent System Application

In the absence of a forced–air system and a typical duct system layout, the ERV/HRV can be applied as an independent or stand alone unit. To ensure comfort, this type of application involves running both fresh–air and return–air registers (or stale–air pickup registers) throughout the home.

Fresh–air registers are normally located in bedrooms, dining room, living room, and basement. It is recommended that registers be placed 6 to 12–in (152 to 305mm) from the ceiling on an interior wall and airflow directed toward ceiling. If registers are floor installed, airflow should be directed toward the wall.

**⚠ WARNING**

**CARBON MONOXIDE POISONING HAZARD**

Failure to follow this warning could result in personal injury or death.

Do not install return–air registers (or stale–air pickup registers) in same room as gas furnace or water heater.

Return–air (or stale–air pickup registers) are normally located to draw from kitchen, bathroom, basement, or other rooms where stale–air can exist.

Proper size and type of registers must be used to minimize pressure drop. The velocity of airflow through register should not be above 400 ft (122m) per minute.

Maximum length of duct for the system should be designed according to the highest speed of the unit. Refer to specifications listed in unit Product Data Digest for ventilation capacities.

### Forced–Air Application

Most ERV/HRV applications will be installed in conjunction with new or existing forced–air system. To operate properly, the fresh–air supply and stale–air return from ERV/HRV connect directly to return–air duct system. This is how the ERV/HRV distributes fresh air and removes stale air from inside of building. See Fig. 6. For these installations, furnace or fan coil blower must be interlocked and operate continuously whenever ERV/HRV is energized. See Fig. 18 for interlock wiring detail.

**NOTE**: The fresh air from ERV/HRV is introduced into return–air duct at a point no less than 6 ft (1.8m) upstream of furnace or fan coil. This connection should be direct. See Fig. 6. This is to allow incoming fresh–air to mix before entering indoor equipment.

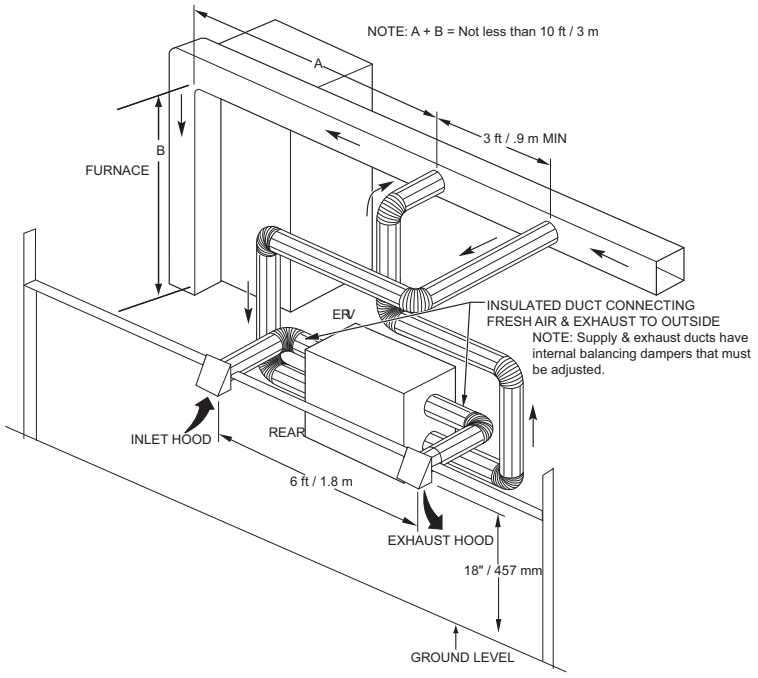


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**Fig. 6 - Exhaust Ventilation**

## Connect Ducts to ERV/HRV

**⚠ CAUTION**

**PROPERTY DAMAGE HAZARD**

Failure to follow this caution may result in minor property damage from sweating duct or loss of unit efficiency and capacity.

If ERV/HRV duct work is installed in an unconditioned space, insulated flexible duct is required.

**Insulated flexible duct is required on both fresh–air inlet and exhaust–air outlet ducts connecting to exterior wall.** When using insulated flexible duct, the vapor barrier of the flexible ducts must be taped very tight to prevent condensation problems. To reduce pressure drop, stretch the flex duct and support it in a proper manner to avoid reduced airflow.

When connecting the ERV/HRV to a return–air duct system, insulated flexible duct can be used. However, when metal or rigid ducts are applied use approximately 18–in (457mm) of flexible duct at ERV/HRV ports for fresh–air supply, and stale–air return. When using metal duct from fresh–air supply to system duct work, the metal duct should be insulated. See Fig. 7. This can act as a silencer when connecting ducts to return–air duct system. This should eliminate transmission of noise or vibration from unit to main duct system.

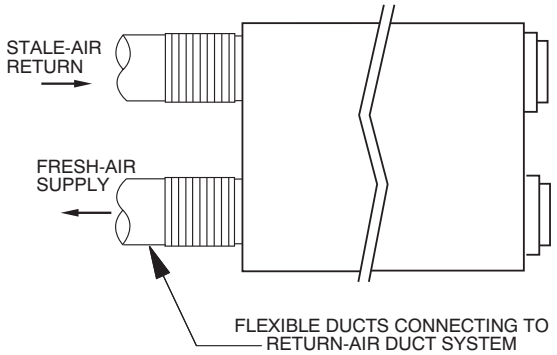


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**Fig. 7 - Flexible Duct Fit–Up**

## Locate and Install Exterior Hoods

**IMPORTANT**: To prevent condensation problems, insulated flexible ducts are required on both fresh–air inlet and exhaust–air outlet ducts connecting between ERV/HRV and exterior wall.

Fresh–air intake and stale–air exhaust must be separated by at least 6 ft (1.8m). Fresh–air intake must be positioned at least 10 ft (3m) from nearest dryer vent, furnace exhaust, driveway, gas meter, or oil fill pipe. Fresh–air intake must be positioned as far as possible from garbage containers and potential chemical fumes. When possible, it is advised to locate the intake and exhaust hoods on same side of house or building. The intake and exhaust hoods should never be located on interior corners or in dead air pockets See Fig. 6. Both intake and exhaust hoods must be 18–in (457mm) from ground and at least 12–in (305mm) above anticipated snow level.

After selecting proper hood locations, make appropriate size hole through exterior wall, pass flexible duct through hole and insert hood tube into duct. Tape duct vapor barrier tightly around hood tube and insert assembly back into wall and fasten securely.

## Condensate Drain

(For ERV, skip this step and continue to the next step.)

To connect condensate drain, proceed as follows:

1. Punch out holes in foam insulation and door, then insert sleeved grommets into bottom of unit using the gasket washer and nut. See Fig. 8.
2. Cut two sections of plastic tubing, about 12–in. / 305mm long and attach them to each drain.
3. Join the two short sections of plastic tubing to the “T” connector and the main tube as shown.
4. Make a loop in the tubing below the “T” connector to create a trap to prevent sewer gases from entering the ventilation system. See Fig. 8.
5. Connect unit drain to building’s main drain. Provide slight slope from unit for run–off.

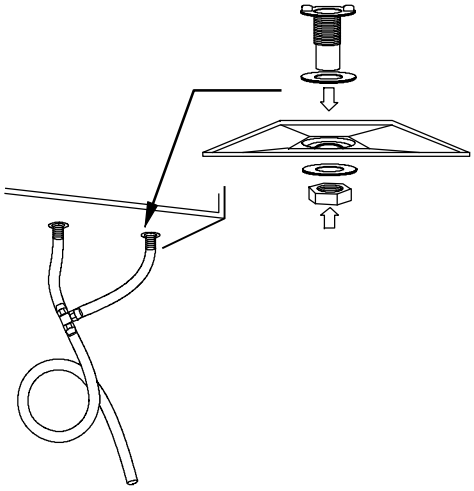

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**Fig. 8 - Condensate Drain With Loop Trap (HRV Only)**

## Integrated Control

All units are equipped with an integrated control, located under the unit, in front of the electrical compartment. Use the push button (1) to control the unit. The LED (2) will then shows on which mode the unit is in. Integrated Control overrides Wall Control function. When LED is off, ventilator responds to Wall Control command. See Fig. 9.

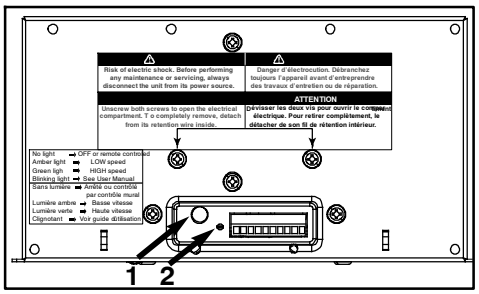


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**Fig. 9 - Integrated Control**

Refer to table below to see how to operate the unit using its integrated control.

| PRESS ON PUSH BUTTON | LED COLOR | RESULTS |
|---|---|---|
| Once | Amber | Unit is on Low Speed |
| Twice | Green | Unit is on High Speed |
| Three Times | No Light | Unit is OFF |

**NOTE**: **IMPORTANT: The integrated control must be turned OFF to use an optional main control.**

If a problem occurs during the unit operation, its integrated control LED (2) will blink. The color of the blinking light depends on the type of error detected. Refer to Troubleshooting for further details.

The Côr system control will simultaneously control the ERV/HRV and the indoor blower.

## Electrical connection to main controls

For more convenience, this unit can also be controlled using an optional main wall control.

## Location

The Standard Control and the Latent Control sense humidity and not temperature. They must be located in an area where they will continually monitor fresh air circulating within the home. Install ERV/HRV wall controls as close as possible to main system thermostat and follow same guidelines as installing a thermostat (locate approximately 5 ft /1.5m above floor, mount on an inside partitioning wall, etc.)

### ⚠ WARNING

**ELECTRICAL OPERATION HAZARD**

Failure to follow this warning could result in personal injury or death.

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

**PROPERTY DAMAGE HAZARD**

Failure to follow this caution may result in property damage.

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. Check if 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. See Fig. 21, wire A is correctly inserted, but wire B is not.)

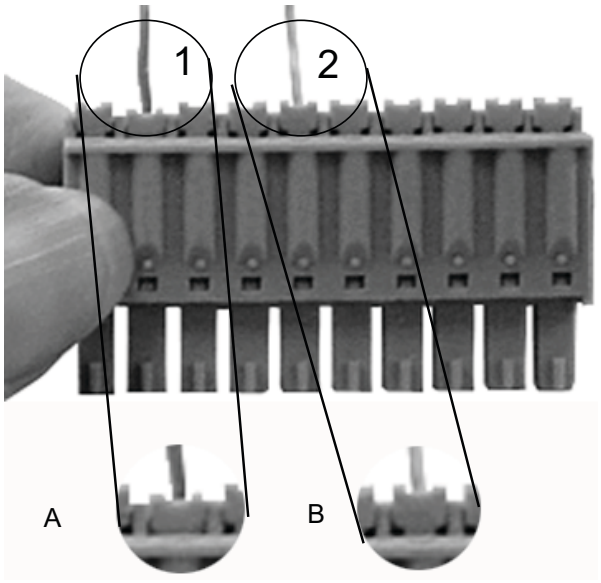


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**Fig. 10 - Terminal connector**

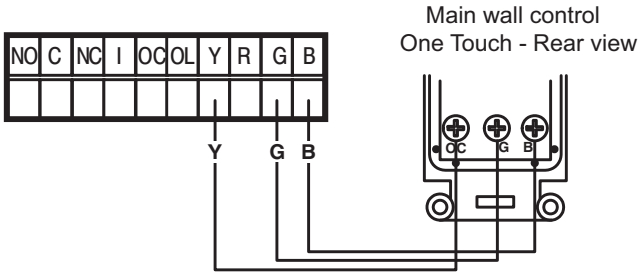


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**Fig. 11 - Electrical connection to One touch**

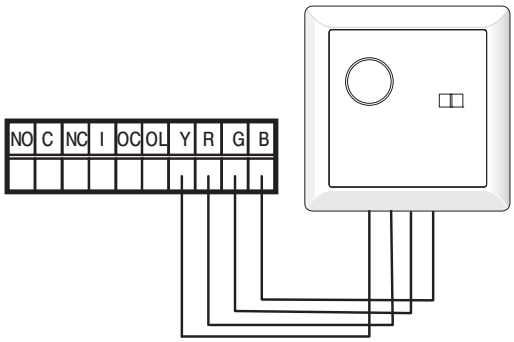


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**Fig. 12 - Electrical connection to standard or basic main wall control**

**NOTE**: ERV/HRV wall control and circuit board operate on 12VDC.

## OPERATING THE ERV/HRV WITH THE CÔR CONTROL

### BOOT SEQUENCE

The unit boot sequence is similar to a personal computer boot sequence. Each time the unit is plugged after being unplugged, or after a power failure, the unit will perform a 30–second booting sequence before starting to operate. During the booting sequence, the integrated control LED will light GREEN or AMBER for 5 seconds, and then will shut off for 2 seconds. After that, the LED will light RED for the rest of the booting sequence. During this RED light phase, the unit is checking and resetting the motorized damper position.

Once the motorized damper position completely set, the RED light turns off and the booting sequence is done.

**NOTE**: No command will be taken until the unit is fully booted.

## ELECTRICAL CONNECTIONS

### 115–VAC Wiring

The ERV/HRV operates on 115VAC. It comes with a power cord attached to unit and ready to plug into a fused outlet. Unit must be grounded for proper operation.

All electrical connections must comply with National and Local Electrical Codes, or other ordinances that might apply.

**⚠ WARNING**

**ELECTRICAL SHOCK / FIRE HAZARD**

Failure to follow this warning could result in personal injury, death and/or property damage.

Do not use an extension cord as a power source for operating the ERV/HRV.

### 12VDC Wiring

The ERV/HRV circuit board, wall control, and accessories operate on 12VDC. See Wall Control section, item Wiring and Fig. NO TAG and NO TAG for more information.

## ACCESSORIES

**NOTE**: If an optional auxiliary control is used, if activated, this auxiliary control will override the optional main control.

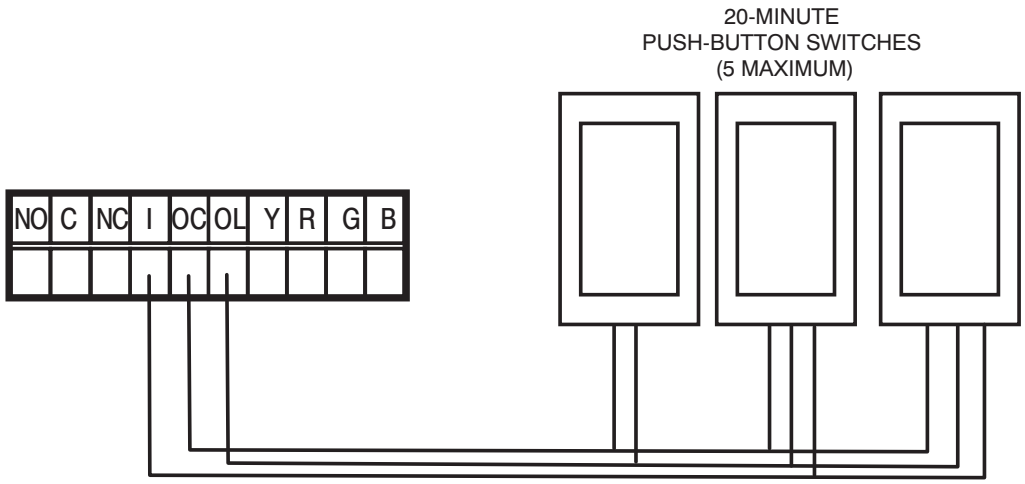



**Fig. 13 - Electrical connection to 20- minute lighted push button timer(s)**

## ELECTRICAL CONNECTION TO THE FURNACE

**⚠ WARNING**

**ELECTRICAL OPERATION HAZARD**

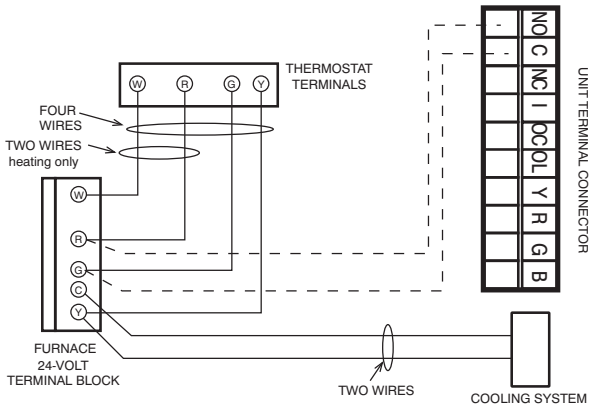
Failure to follow this warning could result in personal injury or death.

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. See Fig. 26.

Standard furnace interlock wiring




Alternate furnace interlock wiring

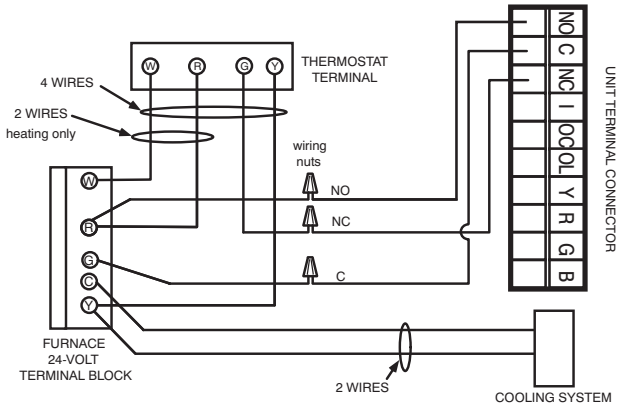



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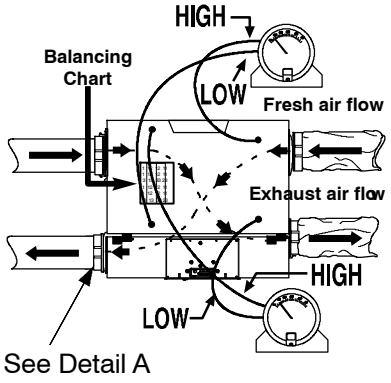
**Fig. 14 - Electrical connection to furnace**

## BALANCING ERV/HRV

Balancing intake and exhaust airflow is very important for proper system operation and optimum performance when applying an ERV/HRV. Unit balancing prevents a positive and/or negative pressure within the home. Balancing the ERV/HRV is done by applying magnehelic gauge and using the balancing dampers at the fresh air intake and stale air exhaust ducts. See Fig. 15.



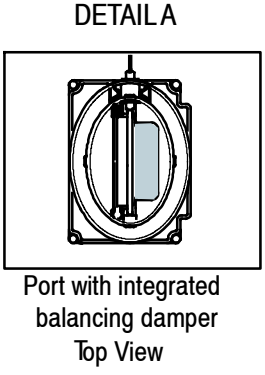




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**Fig. 15 - Balancing ERV/HRV**

Airflow is determined by temporarily connecting a magnehelic gauge to the pressure taps on ERV/HRV. See Fig. 16. Balancing chart is located on unit door.

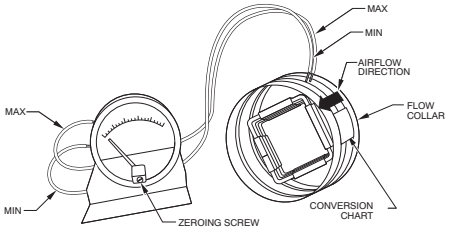


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**Fig. 16 - Magnehelic Gauge**

If supply–air from outside is greater than exhaust–air from the house, an imbalance can result over pressurizing the home. If exhaust–air is greater than supply–air, combustion appliances may backdraft, bringing exhaust fumes into the house. A balanced condition will ensure optimum performance, provide satisfied customers, and avoid expensive callbacks.

Before proceeding with balancing, all windows, doors, and fireplace flues should be tightly closed. No exhaust systems such as range top exhausts, dryer exhaust, fume hoods, bath or roof fans should be in operation. The forced–air furnace (if used for circulation) should be operating in continuous fan mode for normal operating speed.

### Balancing Procedure

### Step 1 — Set the unit to high speed.

Make sure that the furnace/air handler blower is ON if the installation is in any way connected to the ductwork of the cold air return. If not, leave furnace/air handler blower OFF. If the outside temperature is below 32°F (0°C), make sure the unit is not running in defrost while balancing. (By waiting 10 minutes after plugging the unit in, you are assured that the unit is not in a defrost cycle.)

### Step 2 — Magnehelic gauge placement.

Place the magnehelic gauge on a level surface and adjust it to zero.

### Step 3 — Connect tubing from gauge to EXHAUST air flow pressure taps.

Be sure to connect the tubes to their appropriate high/low fittings. See Fig. 15. If the gauge drops below zero, reverse the tubing connections.

**NOTE**: It is suggested to start with the exhaust air flow reading because the exhaust has typically more restriction than the fresh air, especially in cases of fully ducted installations or source point ventilation. Place the magnehelic gauge upright and level. Record equivalent AIRFLOW of the reading according to the balancing chart.

### Step 4 — Move tubing to FRESH air flow pressure taps.

Adjust the fresh air balancing damper until the fresh air flow is approximately the same as the EXHAUST air flow. If fresh air flow is less than exhaust air flow, then go back and adjust the exhaust balancing damper to equal the fresh air flow. See Fig. 13.

### Step 5 — Secure both dampers thumb screw in place with tape.

### Step 6 — Record air flow information.

Write the required air flow 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).

**NOTE**: The unit is considered balanced even if there is a difference of ±10 CFM (or ±5 l/s or 17 $m^3/h$) between the two air flows.

### Balancing Dampers

Balancing dampers (sometimes called butterfly dampers) are located in fresh–air intake and stale–air exhaust of the ERV/HRV. See Fig. 15. Insulating over these dampers is strongly recommended after balancing is complete to prevent condensation problems.

## VENTILATION EVALUATION

**⚠ CAUTION**

**UNIT DAMAGE HAZARD**

Failure to follow this caution may result in reduced unit efficiency, capacity or unit life.

DO NOT use HRV during construction of a house or when sanding drywall. This type of dust may damage system.

## CONTROL BOARD OPERATION

### Defrost

The ERV/HRV continually monitors the outside air temperature. If the outside air is at or below 23°F (–5°C), the ERV/HRV will initiate a defrost cycle by closing the outside air damper and recirculating warm indoor air through the heat recovery core.

**Table 2 – Defrost Schedule**

| UNIT TYPE | 23 to –17°F –5 to –27°C | | –17°F and below –27°C and below | |
|---|---|---|---|---|
| | Frequency | Duration | Frequency | Duration |
| HRV | 25 min. | 8 min. | 22 min. | 10 min. |
| ERV | 28 min. | 9 min. | 22 min. | 10 min. |

When low–speed air exchange occurs, K1 Relay is energized which closes the contacts. K2 and K5 relays are de–energized. This keeps low–speed contacts closed and high–speed contacts open on K2 relay, and opens outdoor air damper. 120VAC is applied between Red and Gray wires on Molex plug (pins 1 and 4) and blower motor runs in low–speed operation.

**NOTE**: The core should only be serviced when outdoor temperature is 60°F to 75°F (16°C to 24°C) and it is dry.

**⚠ CAUTION**

**UNIT COMPONENT DAMAGE HAZARD**

Failure to follow this caution may result in equipment damage or improper operation.

**DO NOT** use water to clean core or damage will result. In addition, before servicing or removing the core inspect the edges to see if they appear soft (or slightly expanded). This can be normal and due to moisture in the air. **DO NOT** handle or service core until it is dry or air passages can become damaged and/or closed.

**⚠ WARNING**

**ELECTRICAL SHOCK HAZARD**

Failure to follow this warning could result in personal injury or death.

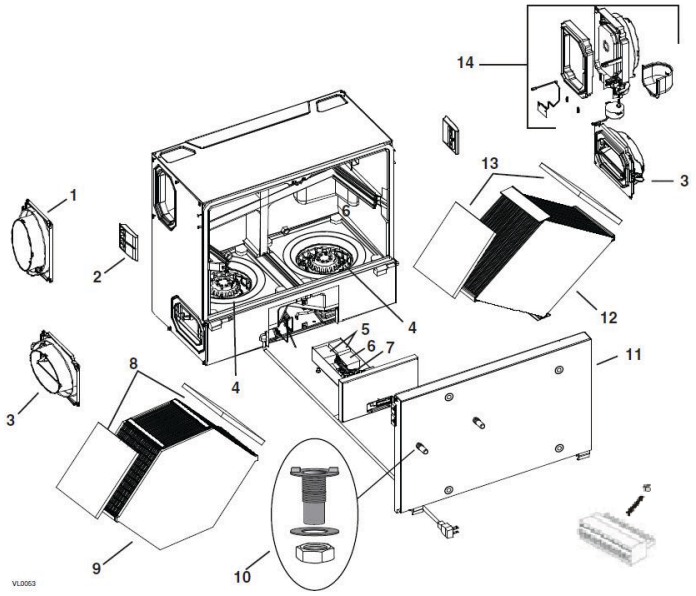
Before installing or servicing system, always turn off main power to system. There may be more than 1 disconnect switch.

**⚠ CAUTION**

**CUT HAZARD**

Failure to follow this caution may result in personal injury.

Sheet metal parts may have sharp edges or burrs. Use care and wear appropriate protective clothing and gloves when handling parts.




## *Service parts*

| | Item | Description | PART # | Ø HRVCRSHB1100 | Ø HRVCRSVB1100 | Ø ERVCRSHB100 | Ø ERVCRSVB1100 |
|---|---|---|---|---|---|---|---|
| | 1 | Oval ports | 16040 | X | X | X | X |
| | 2 | Door latches (with screws) | 16035 | X (2) | X (2) | X (2) | X (2) |
| | 3 | Oval port with integrated balancing damper | 16041 | X | X | X | X |
| | 4 | Motor & wheel assembly (motor capacitor & inlet ring included) | 18301 | X | X | X | X |
| | 5* | Capacitor 5mF (2) | 16042 | X | X | X | X |
| | 6 | Capacitor 18mF (2) | 61127 | X | X | X | X |
| | 7 | Electronic board | 16324 | X | X | X | X |
| | 8 | ERV Foam filter | 16031 | | | X (2) | X (2) |
| | 9 | ERV core (w/2 foam filters) | 16033 | | | X | X |
| Ø | 10 | Drain connector kit (HRV only) | 03203 | X | X | | |
| | 11 | Door assembly | 16323 | X | X | X | X |
| | 12 | Ø Blue or Yellow HRV core (with 2 foam filters) | 18300 | X | X | | |
| | 13 | HRV Foam filter | 16032 | X (2) | X (2) | | |
| | 14 | Motorized Damper port assembly | 16029 | X | X | X | X |
| | 15 | PCB Connector | 16416 | X | X | X | X |
| | 16 | ES Transformer (not shown) | 18302 | X | X | X | X |

* Please check capacitor value shown on capacitor label before ordering

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**Fig. 17 - Service Parts**

**Table 3 – Troubleshooting**

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

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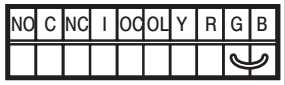
If the integrated control LED of the unit is flashing, this means the unit sensors detected a problem. See the table below to know where the problem occurs on the unit.

| | Error type | Action | Unit status |
|---|---|---|---|
| LED flashes GREEN | Thermistor error | Replace the entire port assembly (fresh air from outside port) | Unit works but will defrost frequently |
| LED flashes AMBER | Damper error | Go to point 5 | Unit does not work |
| LED flashes RED | • The door is open and the unit is not unplugged<br>• Exhaust motor error | • Close the door and press once on the integrated control push button to reset the unit<br>• Go to point 8 B, C, D, or E | Unit does not work |

| | Problems | Possible causes | You should try this |
|---|---|---|---|
| 1 | Unit does not work. | • The fuse may be defective. | • Check if fuse F1 (located on PCB) is blown. In that case, replace fuse F1 as per product nameplate. |
| | | • The circuit board may be defective. | • Unplug the unit. Disconnect the main control and the auxiliary control(s) (if need be). Jump **G** and **B** terminals. Plug the unit back and wait about 10 seconds. If the motors run on high speed and the damper opens, the circuit board is not defective. |
| 2 | The damper actuator does not work. | • The damper actuator or the integrated damper port mechanism may be defective. | • Unplug the unit. Disconnect the main control and the auxiliary control(s) (if need be). Wait 10 seconds and plug the unit back. Check if the damper opens. If not, use a multimeter and check for 24 V AC on J12-1 and J12-2 (on circuit board). If there is 24 V AC, replace the entire damper assembly.<br>NOTE: It is normal to experience a small delay (7-8 seconds) before detecting the 24 V AC signal at starting-up. This signal will stay during 17-18 seconds before disappearing. |
| | | • The circuit board may be defective. | • If there is no 24 V AC, replace the circuit board. |
| 3 | The wall control does not work. | • The wires may be in reverse position. | • Ensure that the color coded wires have been connected to their appropriate places. |
| | | • The wires may be broken. | • Inspect every wire and replace any that are damaged. |
| | | • The wire in the wall OR the wall control may be defective. | • Remove the wall control and test it right beside the unit using another shorter wire.If the wall control works there, change the wire. If it does not, change the wall control. |
| 4 | The Dehumidistat does not work OR the 20-minute push-button timer does not work OR its indicator light does not stay on. | • The wires may be in reverse position. | • Ensure that the color coded wires have been connected to their appropriate places. |
| | | • The Dehumidistat or push button may be defective. | • Jump the **OL** and **OC** terminals. If the unit switch to high speed, remove the Dehumidistat or push button and test it right beside the unit using another shorter wire. If it works here, change the wire. If it does not, change the Dehumidistat or push button. |



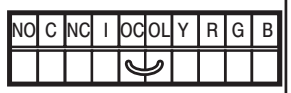




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**Table 3 – Troubleshooting (cont.)**

| | Problems | Possible causes | You should try this |
|---|---|---|---|
| 5 | The supply motor does not work, but exhaust motor works on both high and low speeds. | • The supply motor may be defective. | • Plug supply motor to J5 connector and exhaust motor to J4 connector. If the integrated control LED flashed RED, the supply motor is defective. If exhaust motor works, plug back supply motor to J4 connector, and exhaust motor to J5 connector, then check for supply motor capacitor validity. |
| | | • The supply motor capacitor or the PCB may be defective. | • Plug supply motor capacitor to J7 connector and exhaust motor capacitor to J6 connector. If the integrated control LED flashes RED, the supply motor capacitor is defective. If there is no change, the PCB is defective. |
| | The integrated control LED flashes RED. | • The door is open and the unit is not unplugged. | • Put a magnet over the door switch or close the door and press once on the integrated control push button to reset the unit. Check both high and low speeds using integrated push button. |
| | The integrated control LED flashes RED; exhaust motor does not work on both high and low speeds. | • The exhaust motor may be defective. | • Plug exhaust motor to J4 connector and supply motor to J5 connector. If supply motor works but exhaust motor does not, exhaust motor is defective. If exhaust motor works, plug back supply motor to J4 connector and exhaust motor to J5 connector, then check for exhaust motor capacitor validity. |
| | | • The exhaust motor capacitor may be defective. | • Plug exhaust motor capacitor to J6 connector and exhaust motor capacitor to J7 connector. If exhaust motor works but supply motor does not, the exhaust motor capacitor is defective. If there is no change, check validity of transformer or PCB. |
| | | • The transformer or the PCB may be defective. | • Move JU1 jumper from pins 2 and 3 to pins 1 and 2. Set the unit on high speed (press 2 times on integrated push-button, the LED will light GREEN). If exhaust motor works, the transformer is defective. If it still does not, change the PCB. |
| | The integrated control LED flashes RED; exhaust motor does not work on low speed but works on high. | • The 18 uf low-speed capacitor wires may have a loose connection. | • Check both low speed capacitor wires connections. |
| | | • The 18 uf low-speed capacitor or the PCB may be defective. | • Plug the RED wire from J9 connector to RED wire from transformer. If it works, the 18 uf low-speed capacitor is defective. If it is not working, the PCB is defective. |
| | The integrated control LED flashes RED; exhaust motor does not work on high speed, but works on low speed. | • The connection between BLUE wire from J9 connector to BLUE wire from transformer may be loose. | • Check BLUE wires connection. |
| | | • The transformer or the PCB may be defective. | • Move JU1 jumper from pins 2 and 3 to pins 1 and 2. Set the unit on high speed (press 2 times on inegrated push-button, the LED will light GREEN). If exhaust motor works, the transformer is defective. If it still does not, change PCB. |
| 6 | The defrost cycle does not work (the fresh air duct is frozen) OR the fresh air distributed is very cold. | • Ice deposit may be hindering the damper operation. | • Remove the ice. |
| | | • The damper rod or the port damper itself may be broken. | • Inspect these parts and replace if necessary. |
| | | • The damper actuator or circuit board may be defective. | • See point 2. |
| 7 | The integrated control push button does not work. | • The 30-second boot sequence is not completed. | • See Boot sequence. |

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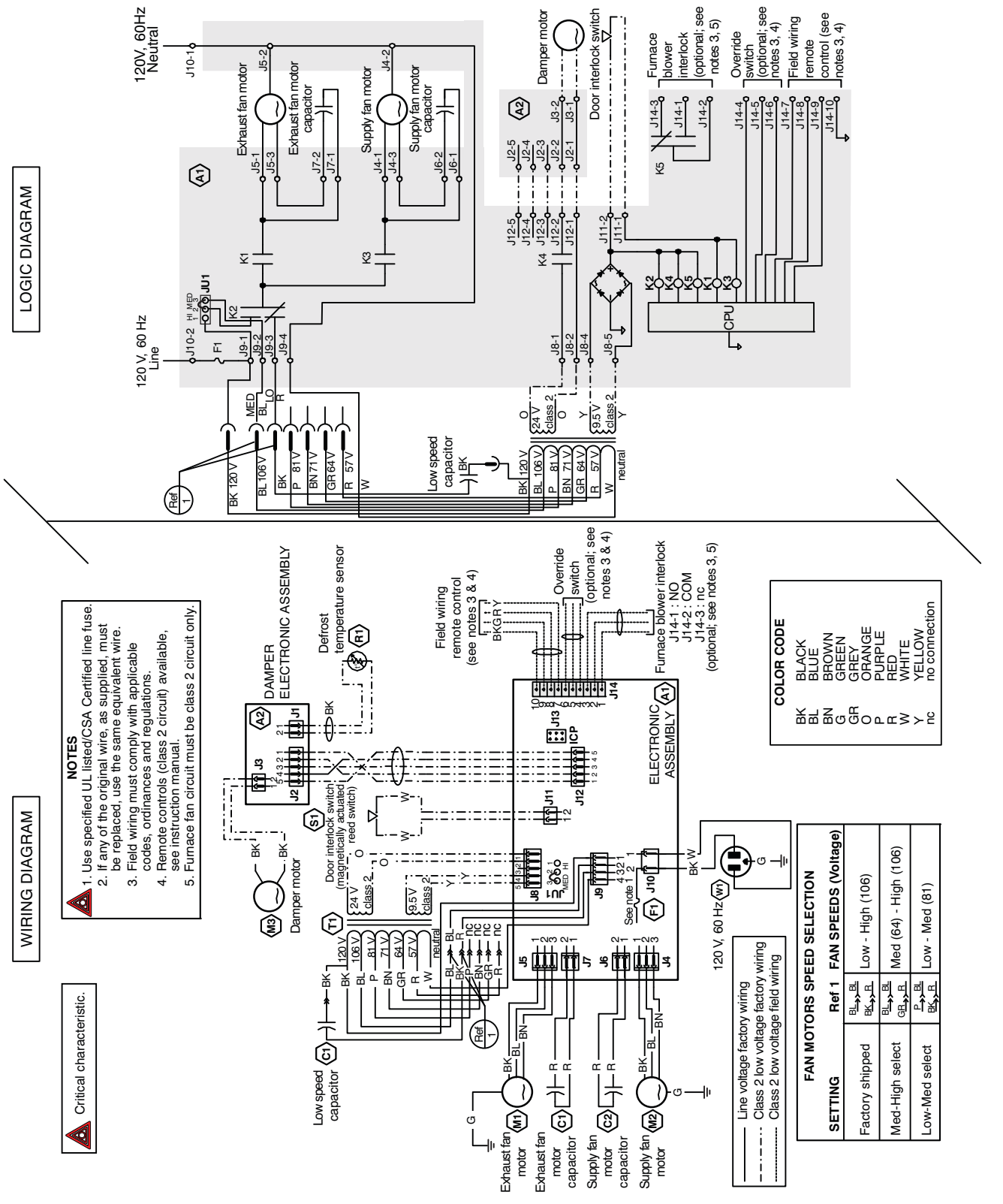


**Fig. 18 - ERV / HRV Wiring Diagram**

Energy Star (Canada)

- ERVCRSVB1100
- ERVCRSHB1100
- HRVCRSVB1100
- HRVCRSHB1100

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.