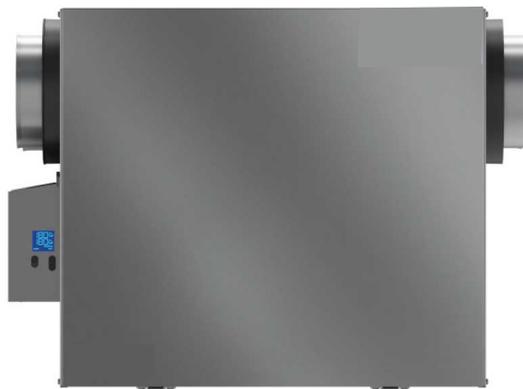


ERV & HRV

Fresh Air Systems

ERVXXLHB1210**, HRVXXLHB1230**

User and Installer Manual



A230249

**INSTALLER: READ THESE INSTRUCTIONS BEFORE INSTALLING UNIT.
SAVE THEM FOR THE USER.**

RESIDENTIAL USE ONLY

REGISTER YOUR PRODUCT ONLINE AT: www.cac-bdp-all.com

For additional information, <https://www.hvacpartners.com/>



** 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.

A200637B

Consumer Information

- A. To ensure quiet operation of the H/ERV, each product model must be installed using sound attenuation techniques appropriate for the installation.
- B. The way your heat/energy-recovery ventilator is installed can make a significant difference to the electrical energy you use. To minimize the electricity use of the heat/energy-recovery ventilator, a stand-alone fully ducted installation is recommended. If you choose a simplified installation that operates your furnace air handler for room-to-room ventilation, an electrically efficient furnace that has an electronically commutated (EC) variable speed blower motor will minimize your electrical energy consumption and operating cost.



1112137 rev. B

Please take note that this manual uses the following symbols to emphasize particular information:

Recognize safety information. When you see this symbol  on the unit and in instructions or 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.

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 power cord from 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 [\(CONNECTIONS on p8\)](#).
6. This unit must be grounded. The power supply cord has a 3-prong grounding plug for your personal safety. It must be plugged into a mating 3-prong grounding receptacle, grounded in accordance with the national electrical code and local codes and ordinances. Do not remove the ground prong. Do not use an extension cord.
7. Do not install in a cooking area or connect directly to any appliances.
8. Do not use to exhaust hazardous or explosive materials and vapors.
9. When performing installation, servicing or cleaning this unit, it is recommended to wear safety glasses and gloves.
10. When applicable local regulation comprises more restrictive installation and/or certification requirements, the aforementioned requirements prevail on those of this document and the installer agrees to conform to these at his own expenses.

CAUTION

TO AVOID UNIT DAMAGE AND ENSURE LONG LIFE

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 garages. Do not attempt to recover the exhaust air from a dryer or a range hood.
4. Intended for residential installation only in accordance with the requirements of NFPA 90B (for a unit installed in U.S.A.) or Part 9 of the National Building Code of Canada (for a unit installed in Canada).
5. Do not run any air ducts directly above or within 2 feet (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 feet (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 system.
11. Make sure at all times that the outside intake and exhaust hoods are free from any snow during the winter season. It is important to check your unit during a big snow storm, so it doesn't draw in any snow. If this is the case, please 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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AIR DISTRIBUTION (NORMAL OPERATION)

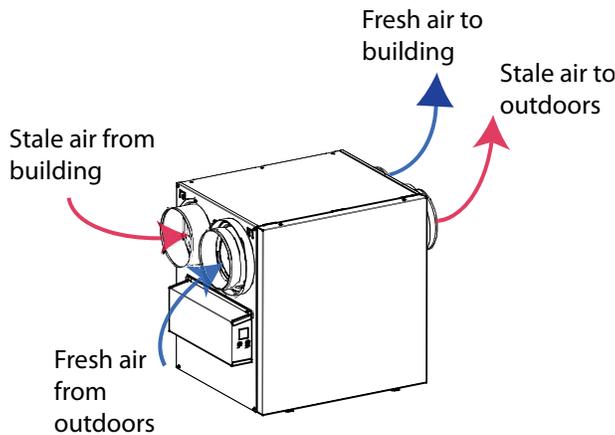


Fig. 1 – Air Distribution

A200558A

NOTE: The dimensions, performance charts, defrost cycle tables and specifications are listed on the specification sheets of the unit. Visit our website at <https://www.hvacpartners.com/>.

INSTALLATION

! CAUTION

SAFETY HAZARD

Failure to follow this caution could result in bodily injury. When performing installation, servicing or cleaning the unit, it is recommended to wear safety glasses and gloves.

! CAUTION

OPERATIONAL HAZARD

Failure to follow this caution could result in degraded operation or damage to the unit. Make sure that no pieces of insulation material enter the unit during installation. This could reduce airflow, generate noise and vibrations in the unit.

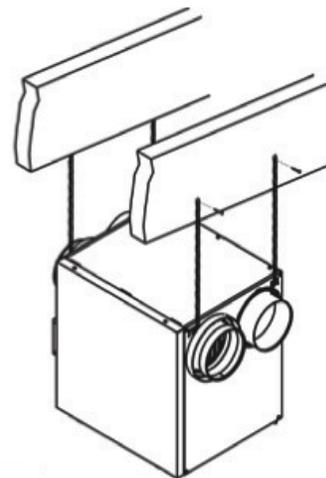


Fig. 2 – Suspended to Joist or Truss

A200559

LOCATING AND MOUNTING THE UNIT

Choose an appropriate location for the unit:

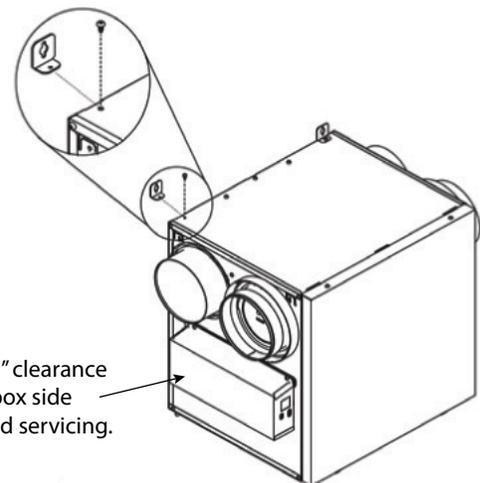
- Within an area of the house where the ambient temperature is kept between 10°C (50°F) and 65°C (149°F);
- Away from living areas (dining room, living room, bedroom), if possible;
- So as to provide easy access to the interior cabinet for maintenance, and to the control panel on the side of the unit;
- Close to an exterior wall, to limit the length of the insulated flexible ducts to and from the unit;
- HRV units only: close to a drain. If no drain is close by, use a pail to collect run-off;
- Away from hot chimneys, electrical panel and other fire hazards;
- Within 6 feet of a power source (standard outlet).

Suspended to the Joists or Trusses:

- Slightly bend the brackets on the unit to insert the provided chains (Fig. 2).
- Hang the unit to the joists using the provided chains. Springs are not required.
- Always make sure that the unit is no more than 1/4" off level.

Wall Mounted:

- Choose the appropriate location(s) for the mounting brackets (see illustration below) according to stud(s) position (Fig. 3).
- Insert the provided brackets under the unit frame (Fig. 4).
- Fix the bracket using the screw no. 8 x 3/8".
- Using the four #8 x 1/2" screws provided, secure the unit to the wall making sure that the 4 screws engage into a stud.
- Always make sure that the unit is no more than 1/4" off level.

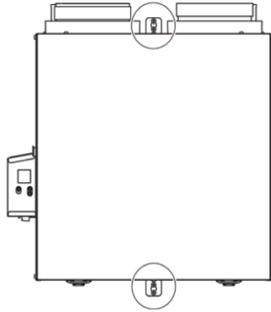


NOTE: Keep 3" clearance on electrical box side for cooling and servicing.

Fig. 3 – Wall Mounted

A200560A

INSTALLATION WITH 2 BRACKETS



INSTALLATION WITH 4 BRACKETS

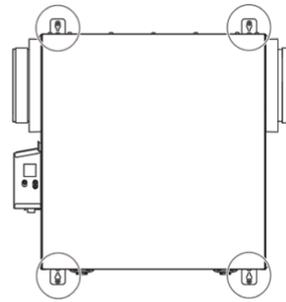


Fig. 4 – Installation With Brackets

A200561

INSTALLING THE DUCTWORK AND THE REGISTERS

! WARNING

CARBON MONOXIDE HAZARD

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

Never install stale air exhaust register in a room where there is a combustion device, such as a gas furnace, a gas water heater or a fireplace. A negative pressure could be created in the area of the fuel burning unit and draw carbon monoxide into the room. CO can cause personal injury or death.

! CAUTION

PROPERTY DAMAGE HAZARD

If ducts have to go through an unconditioned space (e.g.attic), always use insulated ducts to prevent condensation from forming inside and outside ducts, which could cause material damage and/or mold growth. Also, if fresh air to building duct and/or stale air from building duct goes through an unconditioned space, the unit must be set to operate continuously in cold conditions (below 10°C/50°F). Continuous air movement inside ducts will prevent condensation formation. The unit can be stopped temporarily for maintenance and/or repair purposes in such conditions.

FULLY DUCTED SYSTEM (T-1)

This configuration allows Recirculation mode to operate.

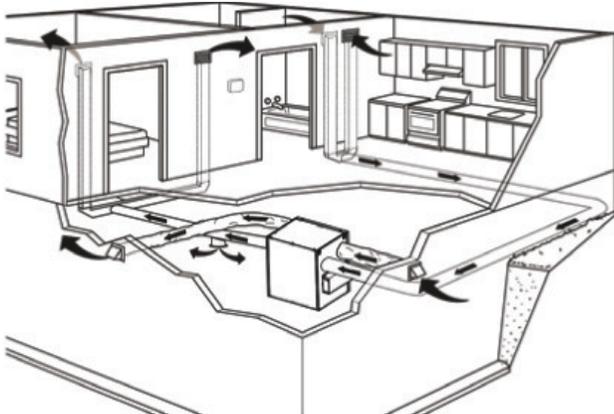


Fig. 5 – Fully Ducted System

A200562

STALE AIR FROM BUILDING:

- Install registers in areas where contaminants and humidity are produced: kitchen, bathrooms, laundry room, etc.

- Install registers on an interior wall, 6 to 12 inches away from the ceiling OR in the ceiling.
- Install the kitchen register at least 4 feet away from the range.
- Bathroom fans and range hoods can be used to better exhaust stale air.
- Homes with more than one level require at least one exhaust register at the highest level.

FRESH AIR TO BUILDING:

- Install registers in bedrooms, dining room, living room and basement.
- Install registers 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 airflow up the wall.

NOTE: For this type of configuration, the T-1 option must be selected on the LCD screen when auto-balancing the unit.

EXHAUST DUCTED SYSTEM (T-2)

This configuration allows Recirculation mode to operate.

When performing duct connection to the furnace/AHU, installation must be done in accordance with all applicable codes and standards. Please refer to your local building code.

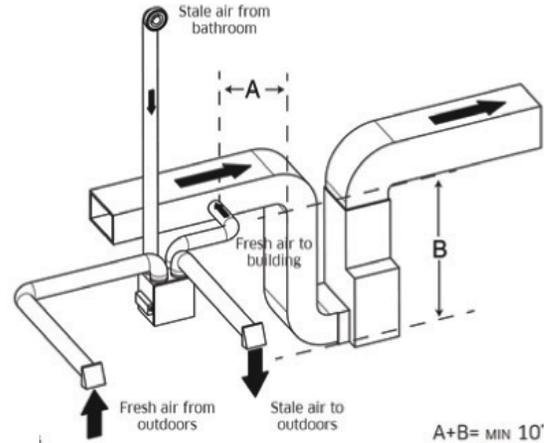


Fig. 6 – Exhaust Ducted System

A200563

STALE AIR FROM BUILDING:

- Same as for Fully Ducted System.

FRESH AIR TO BUILDING:

- Connect the fresh air distribution duct of the unit to the furnace/AHU return duct at least 10 feet away from the furnace/AHU (A+B).

NOTE: This 10-ft. distance applies only in areas where the outside temperature falls below the freezing point 0°C (32°F).

NOTE: The furnace/AHU blower operation can be synchronized with the unit (CONNECTION TO THE CENTRAL FORCED-AIR SYSTEM on p10). It is recommended, but not essential that the furnace/AHU blower runs when the unit is in operation.

NOTE: For this type of configuration, the T-2 option must be selected on the LCD screen when auto-balancing the unit.

ALTERNATE INSTALLATION (T-3)

This configuration allows Recirculation mode to operate.

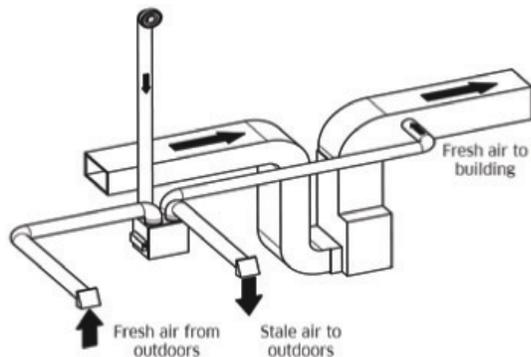


Fig. 7 – Exhaust Ducted System – Alternate A200564

Unit should be synchronized with AHU/furnace operation to avoid stale air from bathroom condensation and mold growth in furnace/AHU distribution ducting if cooling mode of furnace/AHU is used.

This configuration is not recommended with high velocity furnace.

NOTE: For this type of configuration, the T-3 option must be selected on the LCD screen when auto-balancing the unit.

! CAUTION

UNIT DAMAGE HAZARD

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

This configuration is not recommended with high velocity furnace. High pressures produced by these systems could cause errors.

SIMPLIFIED INSTALLATION (T-4)

This configuration does NOT allow Recirculation mode to operate.

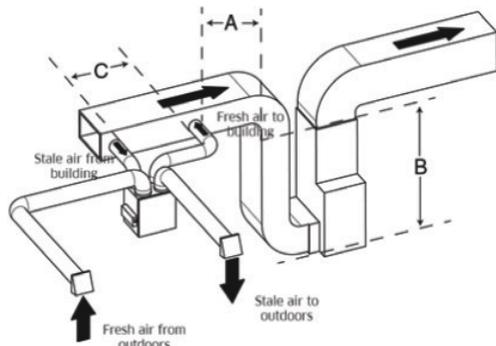


Fig. 8 – Simplified Installation A200565

For this type of installation, the furnace/AHU **must always be synchronized** with the unit in order to maximize the amount of fresh air to the building ([CONNECTION TO THE CENTRAL FORCED-AIR SYSTEM on p10](#)).

When performing duct connection to the furnace/AHU, installation must be done in accordance with all applicable codes and standards. Please refer to your local building code.

Fresh air and exhaust air flow through the furnace/AHU ducts, which simplifies the installation.

The use of bathroom fans and a range hood is suggested to exhaust stale air.

STALE AIR FROM BUILDING:

Connect the stale air intake port of the unit to the furnace return duct at least 3 feet ahead of the fresh air distribution from the unit.

FRESH AIR TO BUILDING:

Connect the fresh air distribution duct of the unit to the furnace return duct at least 10 feet away from the furnace (A+B).

NOTE: This 10-ft. distance applies only in areas where the outside temperature falls below the freezing point 0°C (32°F).

NOTE: For this type of configuration, the T-4 option must be selected on the LCD screen when auto-balancing the unit.

ALTERNATE INSTALLATION (T-5)

This configuration does NOT allow Recirculation mode to operate.

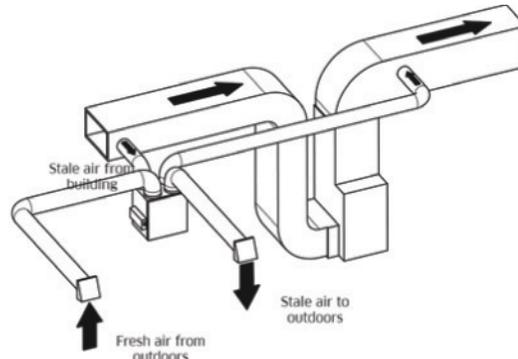


Fig. 9 – Alternate Installation A200566

Unit should be synchronized with AHU/Furnace operation to avoid condensation and mold growth in furnace/AHU distribution ducting if cooling mode of furnace/AHU is used.

! CAUTION

UNIT DAMAGE HAZARD

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

This configuration is not recommended with high velocity furnace. High pressures produced by these systems could cause errors.

NOTE: For this type of configuration, the T-5 option must be selected on the LCD screen when auto-balancing the unit.

CONNECTING THE DRAIN (HRV ONLY)

! CAUTION

UNIT DAMAGE HAZARD

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

A drain hose (included) must be installed on these units, as they may generate a large amount of water, especially in cooler weather.

- Cut the appropriate length of drain tubing (Fig. 10).
- Connect the tubing to the provided adapter.
- Make a water trap loop in the tube to prevent the unit from drawing unpleasant odors from the drain source.
- Add water in the loop to prevent noise or hiss.
- Make sure there is a distance of at least 2" between the unit and the tubing loop.
- Using the tie wrap provided, attach the tubing as illustrated.
- Run the tube to the floor drain or to an alternate drain pipe or pail.

IMPORTANT: If using a pail to collect water, place the tube end approximately 1" inside the pail in order to prevent water from being drawn back up into the unit.

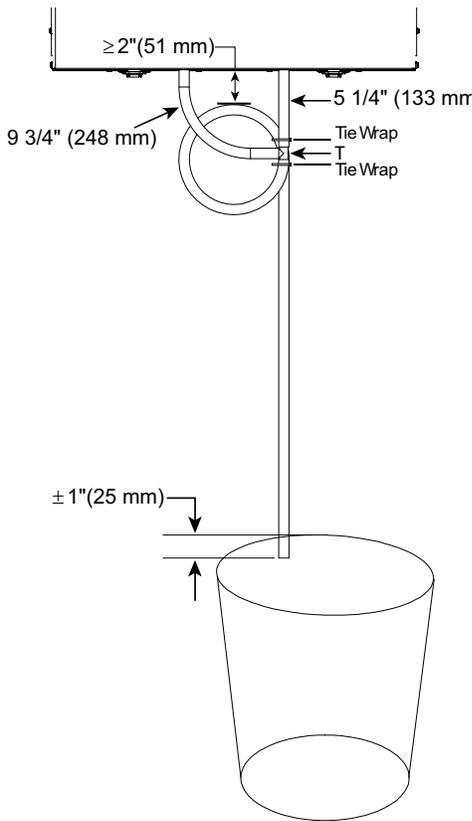


Fig. 10 – Drain Connection

A200567A

INSTALLING THE EXTERIOR HOODS

Choose an appropriate location for the exterior hoods:

- At least 6 feet between both hoods to avoid cross-contamination
- At least 18 inches away from the ground

! WARNING

EXPLOSION HAZARD

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

In the event of a conflict between these conditions and local requirements, the latter will have priority.

Make sure the intake hood is at least 6 feet away from any of the following:

- 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.

Refer to Fig. 11 for proper connection method of the insulated ducts to the hoods. An “Anti-Gust Intake Hood” should be installed in regions where a lot of snow is expected to fall.

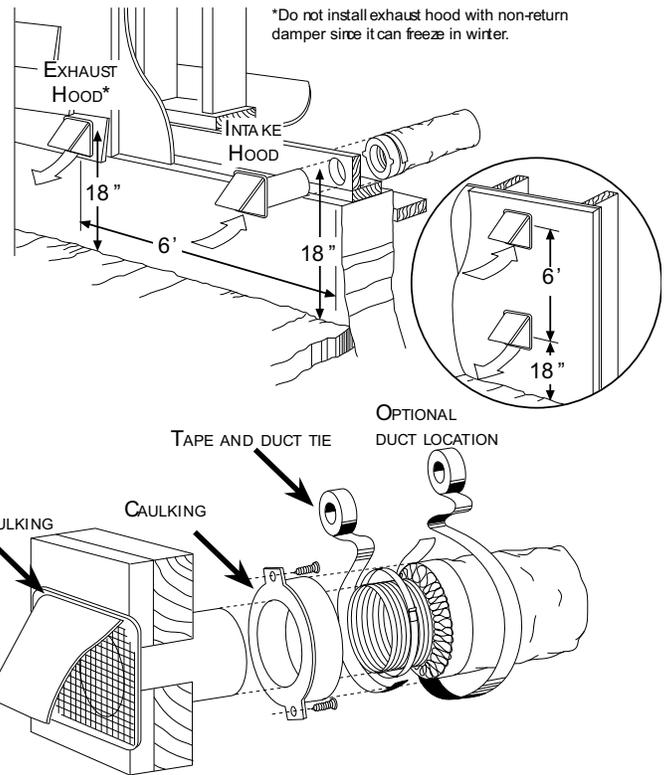


Fig. 11 – Exterior Hoods

A200569A

CONNECTING THE DUCTS TO THE UNIT

! CAUTION

UNIT DAMAGE HAZARD

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

- If ducts have to go through an unconditioned space (e.g.: attic), always use insulated ducts to avoid condensation and mold.
- Do not use screws to connect the ducts or transitions to the ports. They could interfere with proper damper operation.

INSULATED FLEXIBLE DUCTS

Use the following procedure to connect the insulated flexible ducts to the ports of the unit (exhaust to outside and fresh air from outside).

1. Expose the flexible duct by pulling back the insulation, and place it over the inner port ring.
2. Attach the flexible duct to the port using a tie wrap.
3. Seal the joint using duct tape.
4. Pull the insulation and vapor barrier over the joint, tuck them between the inner and outer rings of the double collar and fasten them in place using duct tape.

! CAUTION

UNIT DAMAGE HAZARD

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

- Avoid tearing off the vapor barrier on the insulated ducts during installation to avoid condensation within the ducts.

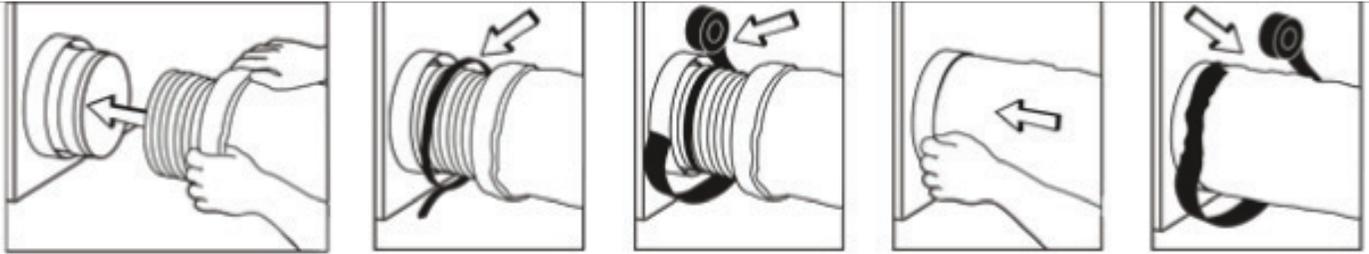


Fig. 12 – Connecting Duct to the Unit

A200570

TRANSITIONING TO 8-IN. DUCTS

If using 8-in. ducts, install 6-in. to 8-in. transitions on the ports, and secure using duct tape only. If rigid ducting is used, install a 12-in. section of flexible duct between the transition and the rigid ducting (Fig. 12).

RIGID DUCTS

To prevent potential water leakage in cold side rigid ducting insulation, seal all rigid ducting joints with duct tape. To avoid transmission of vibrations, always use a 12-inch section of flexible duct to connect rigid ducts to the unit. To connect insulated rigid ducts to the unit (cold side) using insulated flexible ducts, follow instructions per (INSTALLING THE EXTERIOR HOODS on p7). To connect regular rigid ducts (warm side) to the unit using non-insulated flexible ducts, use a tie wrap.

NOTE: We recommend to use 8" ducting instead of 6" ducting if the required airflow is over 200 cfm and long runs of ducting or high quantity of elbows are used. This will prevent having too high static pressure in the ducting.

DUCTS CONNECTION

IMPORTANT: Make sure to connect ducting as illustrated below to get airflows reading accuracy. Correct installation will also allow proper drainage of water that may accumulate in ducting.

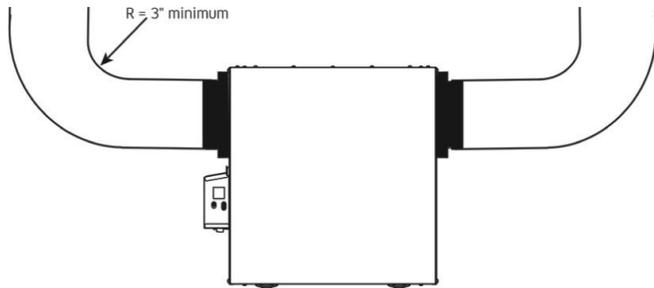


Fig. 13 – Correct Installation

A200571

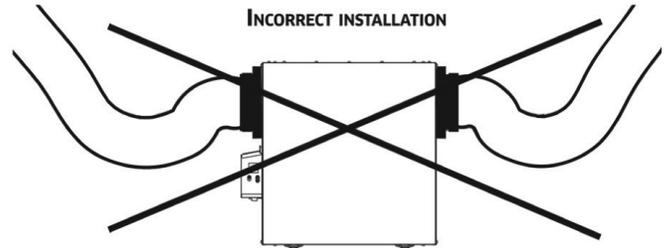


Fig. 14 – Incorrect Installation

A200572

CONNECTIONS

ELECTRICAL CONNECTION TO OPTIONAL MAIN WALL CONTROL

⚠ WARNING

ELECTRIC SHOCK HAZARD

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

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

⚠ CAUTION

EQUIPMENT DAMAGE HAZARD

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

- Never install more than one optional main wall control per unit.
- Make sure the wires do not short-circuit between themselves or by touching any other components on the wall control.
- Avoid poor wiring connections.
- To reduce the risk of electrical interference (noise), 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.

⚠ CAUTION

UNIT DAMAGE HAZARD

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

- Ducting must not be too crushed. Otherwise, airflows reading accuracy will be affected.
- Insulated ducts must have the same diameter as the ports to ensure proper drainage of water that may accumulate in ducts.

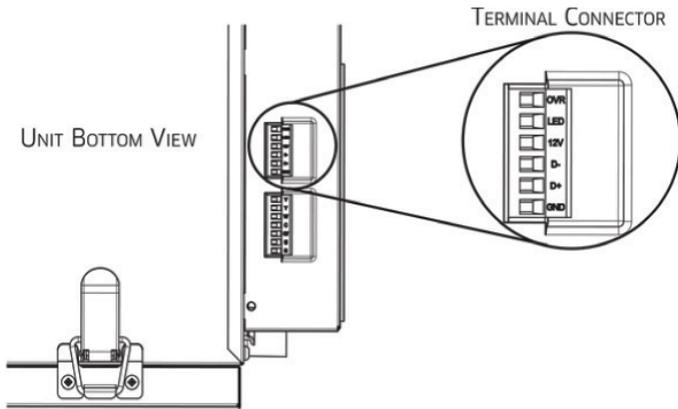


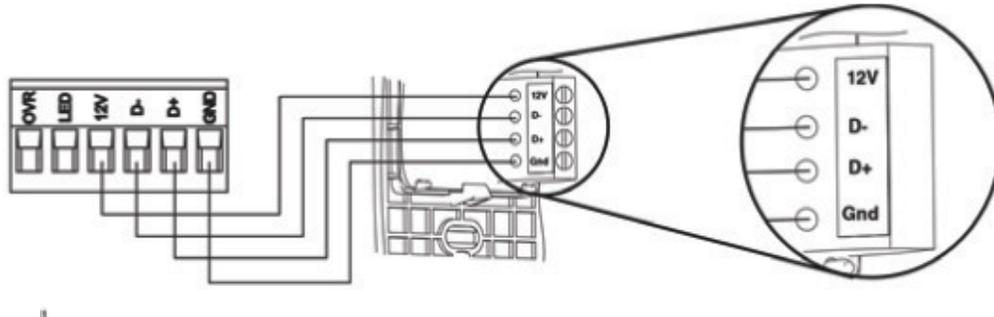
Fig. 15 – Connection to Wall Control

A200573

Use the terminal connector included to perform the electrical connection for optional main wall control. Check if all wires are correctly inserted in their corresponding holes in the terminal connector. Use screws to fix wires in the terminal connector. Once the wall control connections have been made, insert the terminal connector in the electrical compartment.

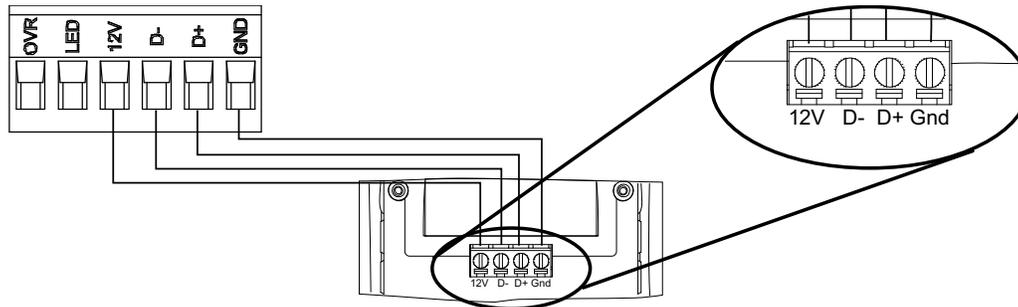
NOTE: For information about the operation of the wall control, refer to the corresponding Installation and User Guide.

Connection to Speed Selector, Automatic, Dehumidistat or Premium Optional Main Wall Control



A200574

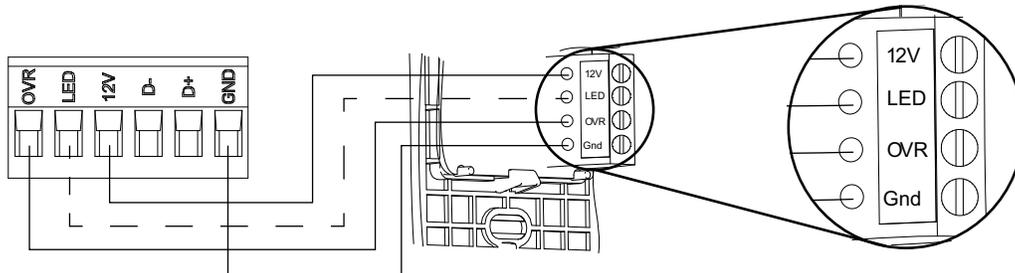
Electrical Connection to Advanced Optional Main Wall Control



A230248

Electrical Connection to Optional Auxiliary Wall Control

Electrical Connection to Bathroom Override Optional Auxiliary Wall Control

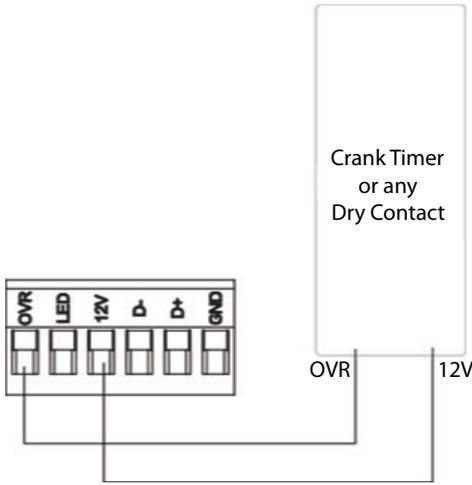


A200576

When configuring OVR option on the LCD screen, choose among these 3 configurations: BAL (the unit remains balanced while providing maximum airflow), PER (the unit is slightly unbalanced since the distribution motor is in MAX speed while allowing maximum exhaust ventilation) and DIS (the unit is unbalanced since air distribution is constant despite a higher need in exhaust ventilation).

NOTE: The auxiliary wall control can be used with a 3-wire connection by removing the LED signals. This optional wiring will not allow an installation with more than one auxiliary wall control to properly synchronize their LEDs on an event requested from a peer. Only the auxiliary wall control having requested the timer event will have the LEDs updated accordingly.

Electrical Connection to Dry Contact Optional Auxiliary Wall Control (Crank Timer)



A210070

! CAUTION

UNIT DAMAGE HAZARD
 Failure to follow this caution may result in equipment damage.

A miswiring that sends a 24VAC signal to the 6-position terminal block (OVR, LED, 12V, D-, D+, GND) could permanently damage the control circuit. Verify the wire connections carefully before powering up the unit.

CONNECTION TO THE CENTRAL FORCED-AIR SYSTEM

! CAUTION

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

Never connect a 120V AC circuit to the terminals of the central forced-air system interlock (standard wiring). Only use the low voltage class 2 circuit of the central forced-air system blower control. The unit is designed for low voltages only. Connecting the unit to 120V would damage it instantly.

Unit Operation Using a Dry Contact Connection

This unit can be controlled by any dry contact connection such as the thermostat equipped with an optional ventilation output (Fig. 16).

Once wired, unit will toggle between the Standby mode when contact is opened and the selected mode when contact is closed. Choose among these 4 configurations in DRY option on the LCD screen when the VENT contact is activated:

- minimum (unit operating in MIN speed)
- intermittent (unit operating in MIN speed 20 min/hr then as per INT configuration selection for 40 min)
- auto* (unit operating according to outdoor temperature)
- maximum (unit operating in MAX speed)

Refer to (NAVIGATION ON LCD SCREEN on p14) for more details.

* In auto mode, the unit will operate as follows:

- Less than -25°C = 10 min/hr
- -25°C to -7°C = 20 min/hr
- -7°C to 10°C = 40 min/hr
- 10°C to 25°C = MIN speed
- 25°C to 28°C = 30 min/hr
- 28°C to 33°C = 20 min/hr
- Above 33°C = 10 min/hr

NOTE: In this configuration do **not** use a separate ERV/HRV wall control.

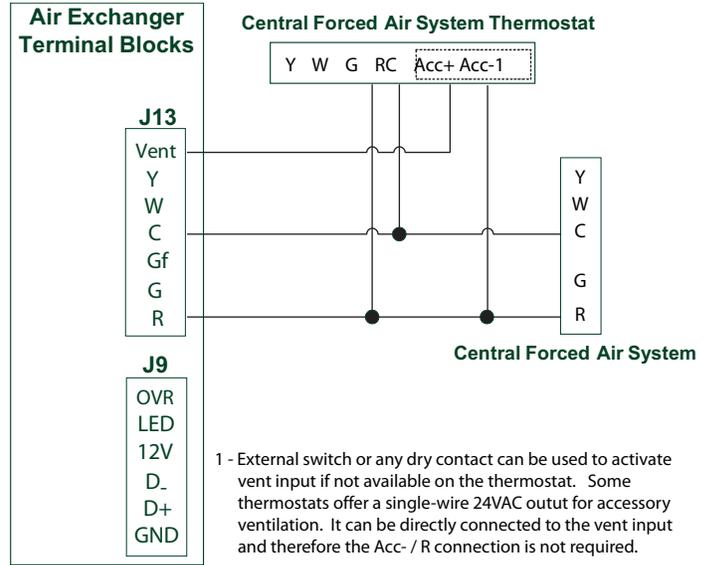
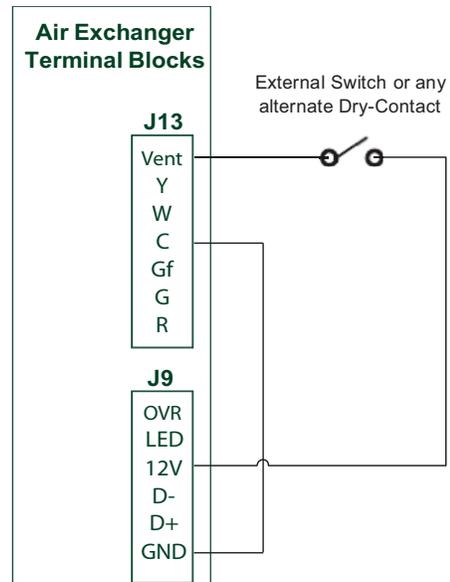


Fig. 16 – Wiring for Dry Contact Connection

A210072



Note: Synchronization with a central forced-air system with W and Y is not available with this configuration.

Fig. 17 – Alternate Wiring for Dry Contact Independent Installation (T-1)

A2010073

NOTE: This dry contact option will override the main wall control, so we do not recommend the use of a wall control with this type connection.

NOTE: Following ducting installation configuration and temperature conditions, it may be necessary for the unit to operate continuously. Refer to (INSTALLING THE DUCTWORK AND THE REGISTERS on p5) for more details.

UNIT INTERCONNECTION WITH CENTRAL FORCED-AIR SYSTEM (R/C/G/G_F)

NOTE: In this configuration, a separate ERV/HRV wall control is required to operate the ventilator connected to the J9 terminal block. See (CONNECTIONS on p8).

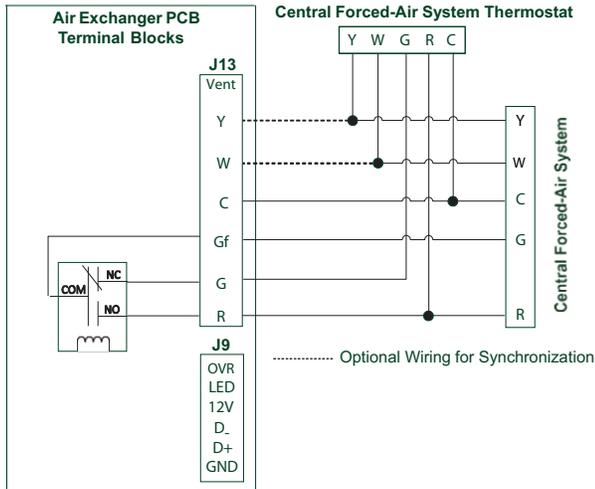


Fig. 18 – Wiring Options with Central Forced-Air System A210083

These connections must be done if you want the unit to force the central forced-air system blower operation when ventilating (see solid lines in Fig. 18).

NOTE: These connections are required for installation configuration T-4. Refer to (INSTALLING THE DUCTWORK AND THE REGISTERS on p5) for more details.

SYNCHRONIZATION WITH CENTRAL FORCED-AIR SYSTEM FUNCTION

The new ventilation technology allows synchronizing the unit operation with the central forced-air system operating time. It prevents unnecessary central forced-air system operating time while providing a better air distribution.

To use this function, W and Y connections must be added to R and C connections to inform the unit that the central forced-air system is running (refer to dotted lines in Fig. 18).

Infinity®/Evolution™ Control

NOTE: Do not connect the Infinity® System Control directly to the ventilator, as that may cause damage. If you have an Infinity® System Control use one of the optional Main Wall Controls.

If you want the Infinity® System Control to control the ventilator, then you must use a NIM (Network Interface Module) P/N SYSTXCCNIM01 and a Translator Board P/N SYSTXXXTRB01 in order for the System Control to communicate properly. If using the Infinity® Zoning Panel P/N SYSTXCC4ZC01 with the ventilators you must use the Translator Board to communicate between the Zoning Panel and the ventilator (Fig. 19). See the Translator Board Installation Instructions for NIM and TRB requirements for newest ERV and HRV models. See the Installation Manual for wiring diagrams.

Please do not connect the Network Interface Module (NIM) or the Infinity® Zoning Panel to the two terminal blocks on the new ventilator. The new ventilator terminals do not match up to the NIM or Infinity® Zoning Panel terminals. Connecting the two controls may cause damage.

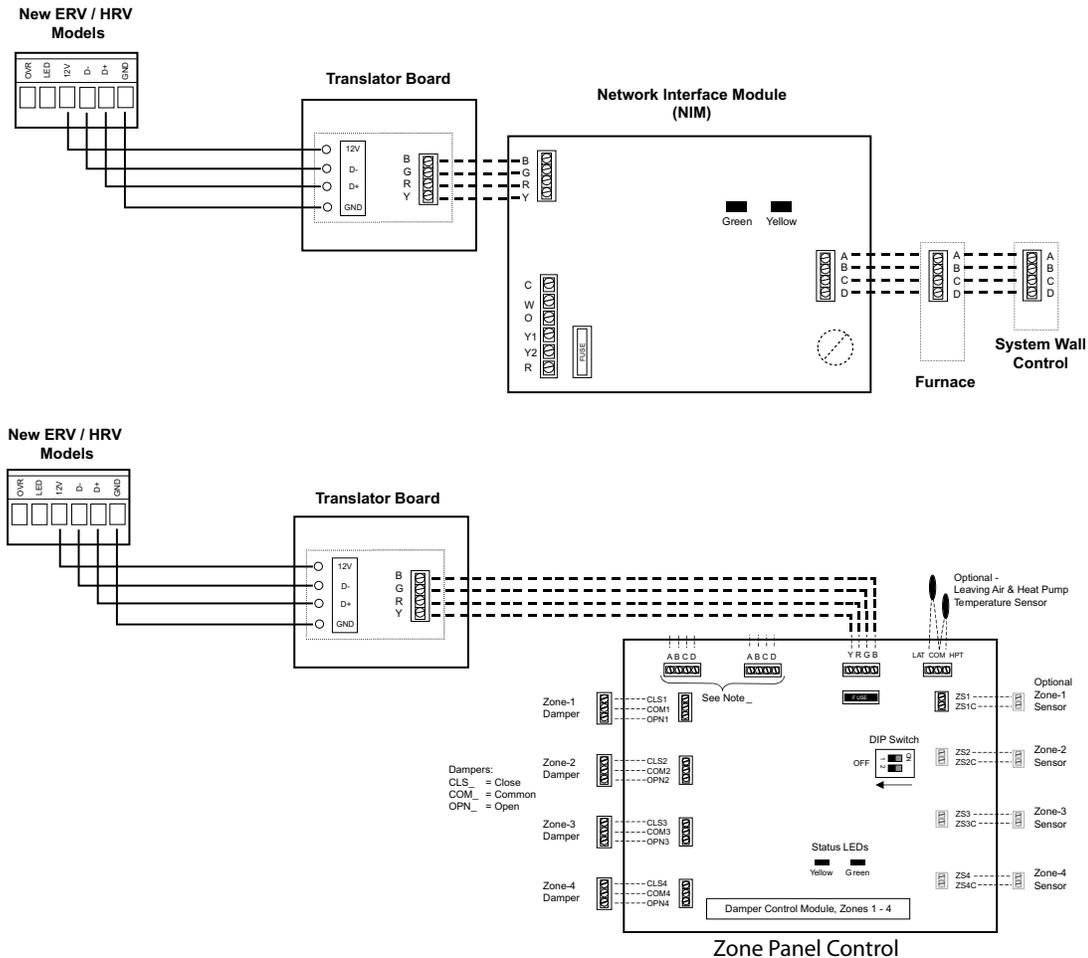


Fig. 19 – New Ventilator & NIM Connections

Synchronize the ventilator to the AHU using the following connections:

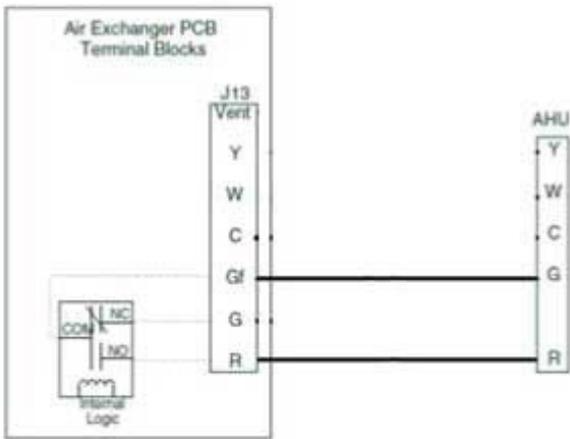


Fig. 20 – Infinity®/Evolution™ Ventilator to AHU Wiring ^{A210005}

This will close the connection between R and G which will turn on the blower in the AHU when the blowers in the ventilator come on.

It is important to have the AHU and the ventilator synchronized for the T-2, T-3, T-4 and T-5 duct configurations.

WIRING DIAGRAM

Refer to [Fig. 21](#) on next page.

! 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.

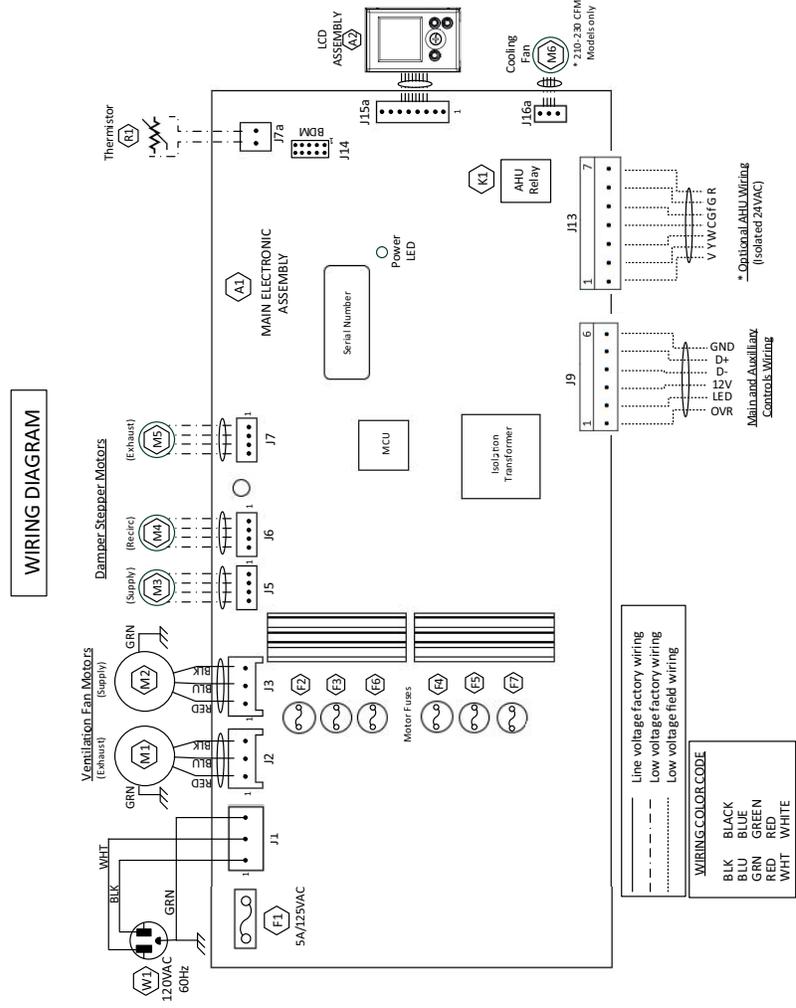
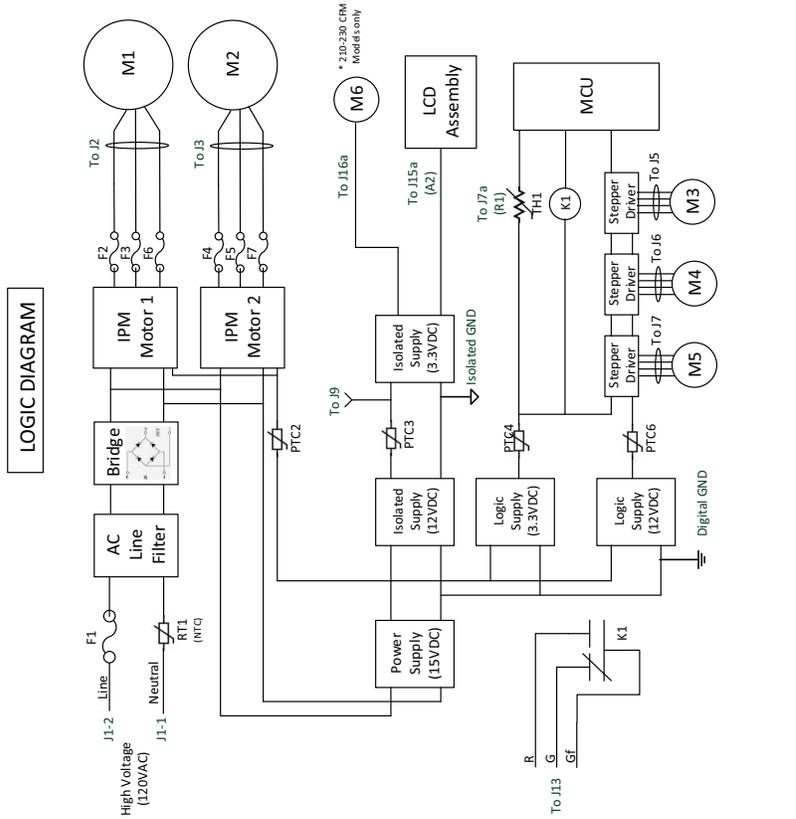
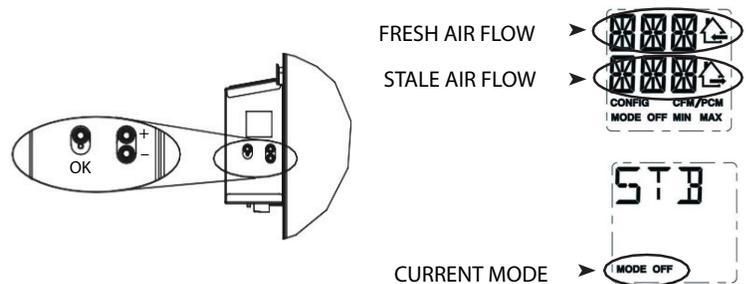


Fig. 21 – Wiring / Logic Diagram

NAVIGATION ON LCD SCREEN

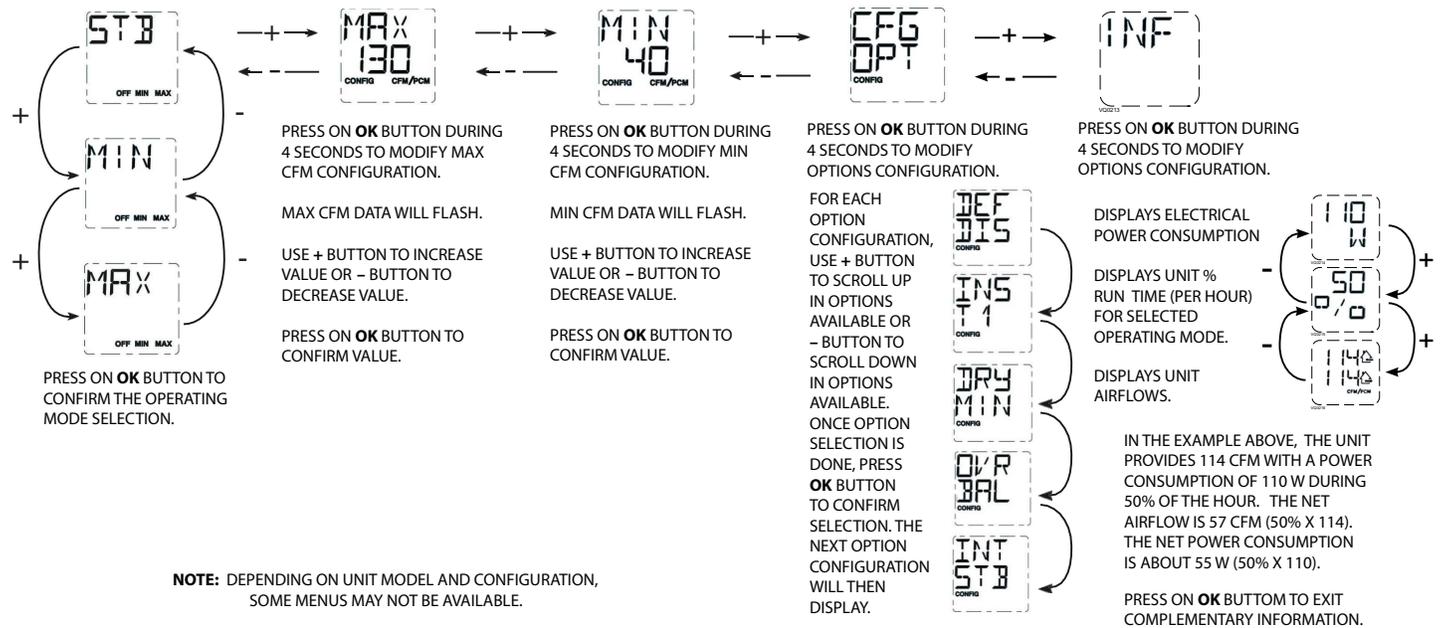
OK button	To confirm a selection.
+ button	To increase a value.
	To scroll up in a selection.
- button	To decrease a value.
	To scroll down in a selection.



A210082

Fig. 22 – LCD Screen Buttons

- Press the OK button to change the operating mode.
- Use the + and - buttons to select the desired operating mode.
- Use the + and - buttons to modify MAX CFM, MIN CFM, or OPTIONS configuration.



A230251

Fig. 23 – Mode and Configuration Settings

Table 1 – Display on LCD Screen

DISPLAY	DEFINITION
STB	Standby mode
MED	MED speed
INT	Intermittent mode
REC	Recirculation mode (Min, Med, or Max speed)
AUT	AUTO mode
SMT	SMART mode
OVR 20	Override 20 min
OVR 40	Override 40 min
OVR 60	Override 60 min
OVR CNT	Override by dry contact
AHU	Refer to (AHU MODE DISPLAY on p16)
HUM	Humidistat or Dehumidistat override
TUR	Turbo mode
OTH	Away mode or Scheduling mode
DEF	Defrost mode
EXX or WXX (XX = error or warning number)	Refer to (USER'S TROUBLESHOOTING on p22)

UNIT FIRST BOOT 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.
- 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.

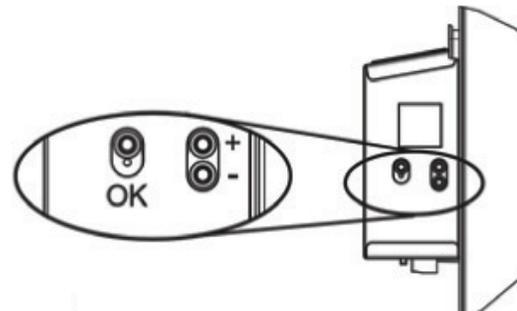


Fig. 24 – Integrated Control

A200579

AUTO-BALANCING PROCEDURE

1. Plug in the unit and wait for the maximum CFM to display on the LCD screen. If the unit is colder than ambient temperature, it is normal to experience up to a 60-second longer boot-up since the motors need to preheat.
2. The maximum CFM will display on the LCD screen. Use (+/-) to adjust the CFM and OK to confirm.
3. The minimum CFM will display on the LCD screen. Use (+/-) to adjust the CFM and OK to confirm.
4. The house icon that flashes on the LCD screen indicates which side currently limits the airflow (supply or exhaust). If the airflow reached is not sufficient, the installer can improve the installation to increase airflow.

2. Auto-balancing is completed.

INSTALLATION CONFIGURATION SELECTION

1. INS will display on the LCD screen. Choose among T-1, T-2, T-3, T-4 or T-5 following the installation configuration (INSTALLING THE DUCTWORK AND THE REGISTERS on p5).

SETTINGS MODIFICATION TO MODIFY MIN CFM SETTING

1. Go to MIN using (+/-), then press the OK button for 4 seconds.
2. Use (+/-) to increase or decrease CFM. Press OK to confirm.

TO MODIFY MAX CFM SETTING

1. Go to MAX using (+/-), then press the OK button for 4 seconds.
2. Use (+/-) to increase or decrease CFM. Press OK to confirm.

TO MODIFY OPTIONS SETTING

- Go to CFG OPT using (+/-), then press the OK button for 4 seconds.

TO MODIFY INDEPENDENT AIRFLOWS SETTING

- Simultaneously press (+/-) for 4 seconds.

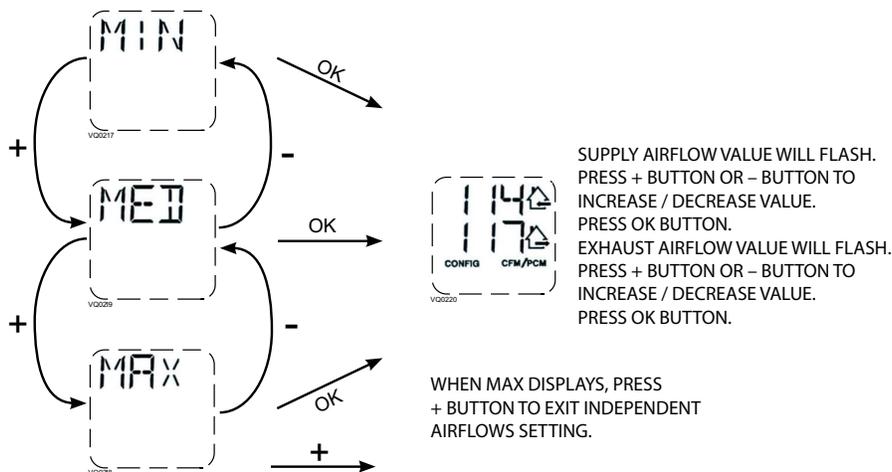


Fig. 25 – Modify Independent Airflows

A220923

Options	Configurations Available
DEF (Defrost)	DIS* (Discretion - defrost without speed variation for more comfort), PLU (Plus - extended defrost for colder areas)
INS (Installation)	T-1, T-2, T-3, T-4*, T-5 (INSTALLING THE DUCTWORK AND THE REGISTERS on p5)
DRY (Dry contact)	MIN* (Minimum), INT (Intermittent), AUT (AUTO), MAX (Maximum) (UNIT INTERCONNECTION WITH CENTRAL FORCED-AIR SYSTEM (R/C/G/GF) on p11)
OVR (Override)	BAL* (Balanced), PER (Performance), DIS (Discretion) (Electrical Connection to Bathroom Override Optional Auxiliary Wall Control on p9)
INT (Intermittent)	STB* (Standby - 20 min in MIN speed and 40 min in standby mode) REC** (Recirculation - 20 min. in MIN speed and 40 min. in recirculation mode. (REC (recirculation) configuration is not available for T-4 and T-5 installation configurations. NOTE: Following ducting installation configuration and temperature conditions, it may be necessary for the unit to operate continuously. Refer to (INSTALLING THE DUCTWORK AND THE REGISTERS on p5) for more details.

* Factory setting

NOTE: If no selection is confirmed within 10 minutes, the unit will exit the menu without saving any changes.

FACTORY SETTINGS RESET: If any change is made to the ducting, reset settings to restart the airflow test.

PROCEDURE TO RESET SETTINGS

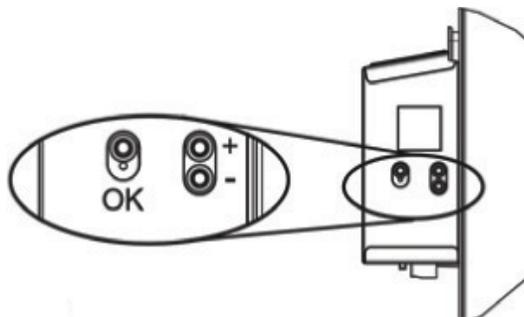
Press on the OK and (-) buttons simultaneously for 4 seconds. Use (+/-) to select Yes or No and OK to confirm. Then perform the auto-balancing procedure.

USING THIS UNIT

YOUR VENTILATION SYSTEM

This balanced ventilation unit is designed to provide fresh air to your home while exhausting stale, humid air. Thanks to its energy/heat recovery module, the unit recovers a large proportion of heat or energy that is part of indoor or outdoor air according to the seasons to improve comfort and energy efficiency during the heating and the cooling periods. With the new ventilation technology, this unit responds to the variations in its environment in an autonomous way, ensuring to provide a proper level of ventilation and air quality. This unit also features automatic modes (AUTO or SMART) that manage autonomously the required ventilation level as per indoor and/or outdoor conditions. In colder areas, the unit will perform, at intervals, recovery module discreet defrost to maintain performance and comfort.

INTEGRATED CONTROL



A200579

All units are equipped with an integrated control, located in front of the electrical compartment. For more convenience, these units can be controlled using an optional wall control or the furnace/AHU thermostat equipped with external fan activation.

MODE SELECTION

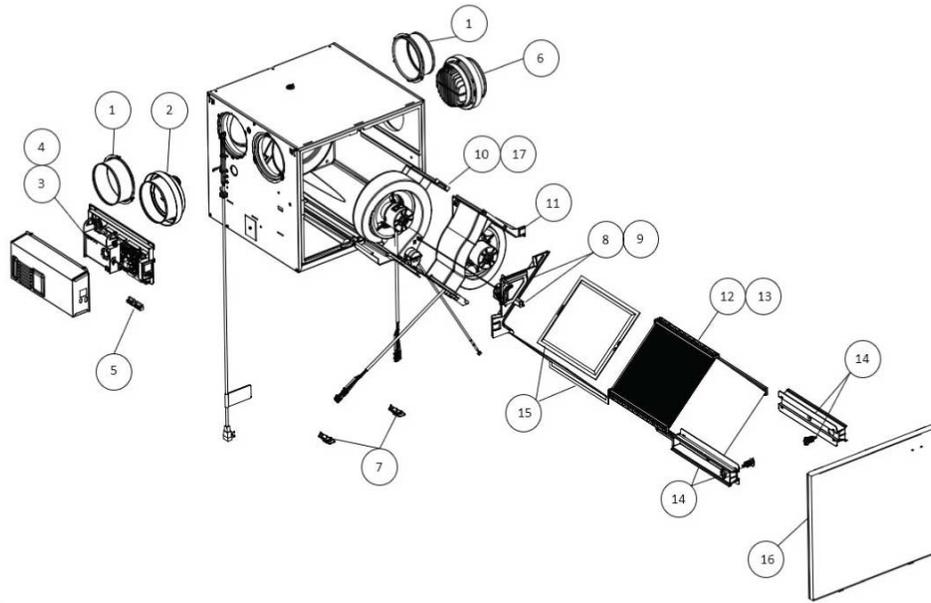
1. To change the mode, use (+/-) to access the Mode screen. Press OK to edit the mode and use (+/-) to change the mode (Standby, Min, Max).
2. Press OK to confirm selection. The airflows will be displayed for both MIN and MAX modes.

NOTE: If an optional auxiliary wall control or the furnace/AHU thermostat equipped with external fan activation is used, it overrides the integrated control.

AHU MODE DISPLAY

Depending on unit configuration and/or installation, the unit could not be able to reach desired minimum CFM. This situation could happen with installation configurations T-2 to T-5. In such a case, AHUXX (XX referring to desired minimum CFM value) will display on LCD screen. In AHU mode, the unit operates in intermittent mode to reach desired minimum CFM value. Intermittent mode duration varies as per desired minimum CFM value.

SERVICE PARTS



A230252

ITEM	DESCRIPTION	PART NUMBER	HRVXXLHB1230	ERVXXLHB1210
1	6" port warm side	SV66139	2	2
2	6" metal port motorized damper	SV66135	1	1
3	Electronic assembly with cooling fan kit 210-230 models	SV68028	-01, qty 1	-03, qty 1
4	Cooling fan kit for electronic 210-230 models	SV68031	1	1
5	Terminal blocks	SV66145	1	1
6	6" exhaust port assembly	SV66137	1	1
7	Door latches and keepers for door	SV61218	1	1
8	Thermistor	SV66134	1	1
9	Recirculation damper with thermistor	SV68029	1	1
10	Exhaust blower assembly with damper 210-230 models	SV68024	1	1
11	Supply blower assembly 210-230 models	SV68023	1	1
12	Core ERV 75 %	SV68018		1
13	Core HRV 75 %	SV68019	1	
14	Core sliders kit with screws	SV68026	1	1
15	MERV8 filters kit	SV68020	1	1
15	Optional MERV13 filter	V24300	1	1
16	Door	SV68032	1	1
17	Exhaust damper	SV68025	1	1
*	Hardware kit	SV66146	1	1
*	Fuse for PCB	SV66147	1	1
*	1/2" hose	SV00592	1	

REPLACEMENT PARTS AND REPAIRS—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 recommends contacting a certified authorized distributor for all replacement parts and repairs.

* Not shown.

INSTALLER'S TROUBLESHOOTING**! WARNING****PERSONAL INJURY HAZARD**

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

A few diagnosis procedures may require the unit to be in operation while proceeding. Be careful with moving and/or live parts.

ERROR	DESCRIPTION	SOLUTION
E01	Supply damper range	STEP 1: Unplug unit, inspect the damper system, remove any undesirable obstacle or dirt (filters and core may have to be removed to access the damper system). Plug in the unit. If STEP 1 did not fix the problem, perform STEP 2: Open electrical compartment, check if connector J5 (white) is well inserted, check for any loose wires.
E02	Supply damper timeout	
E03	Supply damper	If STEP 2 did not fix the problem, perform STEP 3: If the damper is not moving at all, unplug J7 (red) from the electronic assembly, connect the white damper system connector into J7. If the damper moves (but the system still shows an error), the electronic assembly must be replaced. Otherwise, replace the damper system.
E05	Exhaust damper range	STEP 1: Unplug unit, inspect the damper system, remove any undesirable obstacle or dirt (filters and core may have to be removed to access the damper system). Plug in the unit. If STEP 1 did not fix the problem, perform STEP 2: Open electrical compartment, check if connector J7 (red) is well inserted, check for any loose wires.
E06	Exhaust damper timeout	
E07	Exhaust damper	If STEP 2 did not fix the problem, perform STEP 3: If the damper is not moving at all, unplug J5 (white) from the electronic assembly, connect the white damper system connector into J5. If the damper moves (but the system still shows an error), the electronic assembly must be replaced. Otherwise, replace the damper system.
E09	Recirculation damper range	STEP 1: Unplug unit, inspect the damper system, remove any undesirable obstacle or dirt (filters and core may have to be removed to access the damper system). Plug in the unit. If STEP 1 did not fix the problem, perform STEP 2: Open electrical compartment, check if connector J6 (blue) is well inserted, check for any loose wires. If STEP 2 did not fix the problem, perform STEP 3: If the damper is not moving at all, unplug J5 (white) from the electronic assembly, connect the blue damper system connector into J5. If the damper moves (but the system still shows an error), the electronic assembly must be replaced. Otherwise, replace the damper system.
E10	Recirculation damper timeout	
E11	Recirculation damper	
E22	Supply airflow	STEP 1: Unplug the unit. Perform a visual inspection of the supply damper system. Clean filters, distribution registers and outside supply hood. Inspect ducting to ensure it is not squeezed or bent. Plug in the unit. If STEP 1 did not fix the problem, perform STEP 2: Remove ducting of the supply path. On the LCD screen, select MAX to check if the unit is able to reach the selected flow. If so, review the ducting path. If STEP 2 did not fix the problem, perform STEP 3: On the LCD screen, select the MIN and MAX flow setting values then reset the unit. MAX flow value will display on the LCD screen. If MAX flow is above desired MAX flow, set MAX and MIN flows. If STEP 3 did not fix the problem, perform STEP 4: Replace the supply blower and repeat STEP 3. If STEP 4 did not fix the problem, perform STEP 5: Replace the electronic assembly.
E23	Supply motor (drive over current)	STEP 1: Unplug/then plug in the unit. If STEP 1 did not fix the problem, perform STEP 2: Remove core and clear the ventilation wheel from any dirt or obstacles. If STEP 2 did not fix the problem, perform STEP 3: Disconnect J2 (white) and connect a spare blower system. If it works, replace supply blower. If STEP 3 did not fix the problem, perform STEP 4: Replace the electronic assembly.
E27	Supply motor (drive for duration)	
E28	Supply motor (drive speed feedback)	
E29	Supply motor (startup)	
E24	Supply motor (drive over voltage)	STEP 1: Unplug/then plug in the unit. Under and over voltage may be detected with severe in-house power supply fluctuation and stop the motor for protection. If STEP 1 did not fix the problem, perform STEP 2: Replace the electronic assembly.
E25	Supply motor (drive under voltage)	

INSTALLER'S TROUBLESHOOTING (CONT'D)

ERROR	DESCRIPTION	SOLUTION
E26	Supply motor (drive over temp)	STEP 1: Validate if the air exchanger is exposed to ambient temperatures within the operating limits (INSTALLATION on p4). If STEP 1 did not fix the problem, perform STEP 2: Replace the electronic assembly.
E32	Exhaust airflow	STEP 1: Unplug the unit. Perform a visual inspection of the exhaust damper system. Clean filters, distribution registers and outside exhaust hood. Make sure no non-return damper is installed in the exhaust hood since it can freeze in winter. Inspect ducting to ensure it is not squeezed or bent. Plug in the unit. If STEP 1 did not fix the problem, perform STEP 2: Remove ducting of the supply path. On the LCD screen, select MAX to check if the unit is able to reach the selected flow. If so, review the ducting path. If STEP 2 did not fix the problem, perform STEP 3: On the LCD screen, select the MIN and MAX flow setting values then reset the unit. MAX flow value will display on the LCD screen. If MAX flow is above desired MAX flow, set MAX and MIN flows. If STEP 3 did not fix the problem, perform STEP 4: Replace the exhaust blower and repeat STEP 3. If STEP 4 did not fix the problem, perform STEP 5: Replace the electronic assembly.
E33	Exhaust motor (drive over current)	STEP 1: Unplug/then plug in the unit.
E37	Exhaust motor (drive foc duration)	If STEP 1 did not fix the problem, perform STEP 2: Remove core and clear the ventilation wheel from any dirt or obstacles.
E38	Exhaust motor (drive speed feedback)	If STEP 2 did not fix the problem, perform STEP 3: Disconnect J3 (red) and connect a spare blower system. If it works, replace exhaust blower.
E39	Exhaust motor (startup)	If STEP 3 did not fix the problem, perform STEP 4: Replace the electronic assembly.
E34	Exhaust motor (drive over voltage)	STEP 1: Unplug/then plug in the unit. Under and over voltage may be detected with severe in-house power supply fluctuation and stop the motor for protection.
E35	Exhaust motor (drive under voltage)	If STEP 1 did not fix the problem, perform STEP 2: Replace the electronic assembly.
E36	Exhaust motor (drive over temp)	STEP 1: Validate if the air exchanger is exposed to ambient temperatures within the operating limits (INSTALLATION on p4). If STEP 1 did not fix the problem, perform STEP 2: Replace the electronic assembly.
E40	Outside air thermistor	STEP 1: Check if thermistor is well connected in connector J7A. If STEP 1 did not fix the problem, perform STEP 2: Disconnect connector J7A and check if the measured resistance (thermistor connector) is within 5 Kohms to 120 Kohms. If outside the range, replace the thermistor. If STEP 2 did not fix the problem, perform STEP 3: Replace the electronic assembly.
E41	Distribution air thermistor	STEP 1: Check if thermistor is well connected in connector J7B. If STEP 1 did not fix the problem, perform STEP 2: Disconnect connector J7B and check if the measured resistance (thermistor connector) is within 5 Kohms to 120 Kohms. If outside the range, replace the thermistor. If STEP 2 did not fix the problem, perform STEP 3: Replace the electronic assembly.
E42	PCBA thermistor fault	STEP 1: Replace the electronic assembly.
E43	PCBA temperature over limit	STEP 1: Validate if the air exchanger is exposed to ambient temperatures within the operating limits (INSTALLATION on p4). If STEP 1 did not fix the problem, perform STEP 2: Replace the electronic assembly.
E50	Wall control communication lost	STEP 1: Unplug unit, inspect wires, plug in the unit. If STEP 1 did not fix the problem, perform STEP 2: Remove wall control from the wall installation and test with a short cable. If it works, bring a new cable to the wall installation location. If STEP 2 did not fix the problem, perform STEP 3: Test the air exchanger with a spare wall control. If it works, replace the wall control. If STEP 3 did not fix the problem, perform STEP 4: Replace the electronic assembly.
E51	Wall control sensor	STEP 1: Unplug unit, inspect wires, then plug in the unit. If STEP 1 did not fix the problem, perform STEP 2: Replace the wall control.

INSTALLER'S TROUBLESHOOTING (CONT'D)

WARNING	DESCRIPTION	SOLUTION
E60	Protection mode	STEP 1: Perform general inspection of the unit (dampers, core, filters).
W22	Supply airflow	<p>STEP 1: Unplug the unit. Perform a visual inspection of the supply damper system. Clean filters, distribution registers and outside supply hood. Inspect ducting to ensure it is not squeezed or bent. Plug in the unit.</p> <p>If STEP 1 did not fix the problem, perform STEP 2: Remove ducting of the supply path. On the LCD screen, select MAX to check if the unit is able to reach the selected flow. If so, review the ducting path.</p> <p>If STEP 2 did not fix the problem, perform STEP 3: On the LCD screen, select the MIN and MAX flow setting values then reset the unit. MAX flow value will display on the LCD screen. If MAX flow is above desired MAX flow, set MAX and MIN flows.</p> <p>If STEP 3 did not fix the problem, perform STEP 4: Replace the supply blower and repeat STEP 3.</p> <p>If STEP 4 did not fix the problem, perform STEP 5: Replace the electronic assembly.</p>
W32	Exhaust airflow	<p>STEP 1: Unplug the unit. Perform a visual inspection of the exhaust damper system. Clean filters, distribution registers and outside exhaust hood. Make sure no non-return damper is installed in the exhaust hood since it can freeze in winter. Inspect ducting to ensure it is not squeezed or bent. Plug in the unit.</p> <p>If STEP 1 did not fix the problem, perform STEP 2: Remove ducting of the supply path. On the LCD screen, select MAX to check if the unit is able to reach the selected flow. If so, review the ducting path.</p> <p>If STEP 2 did not fix the problem, perform STEP 3: On the LCD screen, select the MIN and MAX flow setting values then reset the unit. MAX flow value will display on the LCD screen. If MAX flow is above desired MAX flow, set MAX and MIN flows.</p> <p>If STEP 3 did not fix the problem, perform STEP 4: Replace the exhaust blower and repeat STEP 3.</p> <p>If STEP 4 did not fix the problem, perform STEP 5: Replace the electronic assembly.</p>
W52	Initial setting incomplete	<p>STEP 1: Press + or - to access the selection menu.</p> <p>STEP 2: Complete configuration. (Refer to (AUTO-BALANCING PROCEDURE on p15) for more details).</p>
W61	Protection mode electronics overheating	<p>The unit is currently in protection mode. The power transmitted to the motor is deliberately reduced to decrease electronics temperature. The unit will exit this mode by itself once conditions are back to normal. It is normal to observe reduction in airflows during this period.</p> <p>This condition should appear only when the unit is set in high speed and located in a warmer environment, for example over 30°C (86°F).</p>

Additional Details for Auto-Balancing Procedure***210 CFM ERV Models***

The unit will reduce its airflow by 30 cfm if the max airflow during the auto-balancing procedure is 160 cfm or less to prevent the ERV core membrane deformation due to very high static pressure (over than 1.3 in. w.g.).

All 210 and 230 CFM Models

Error E22 or E32 will appear if the maximum airflow is 120 cfm or less during the auto-balancing procedure (the unit will try to execute the auto-balancing procedure 3 times before showing an error). Static pressure of ducting shall be reduced.


CAUTION
OPERATIONAL HAZARD

Failure to follow this caution could result in degraded operation or damage to the unit.

Make sure that no pieces of insulation material enter the unit during installation. This could reduce airflow, generate noise and vibrations in the unit.

NOTE: 210 and 230 CFM models have a cooling fan in the electrical box that can start if ambient temperature near the unit is over 104°F (40°C).

MAINTENANCE

WARNING

PERSONAL INJURY HAZARD

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

- Dangerous voltage. During maintenance and repairs, the unit must always be unplugged.
- We take great care to minimize sharp edges; however, please proceed with caution when handling all components.
- When cleaning the unit, it is recommended to wear safety glasses and gloves.

QUARTERLY

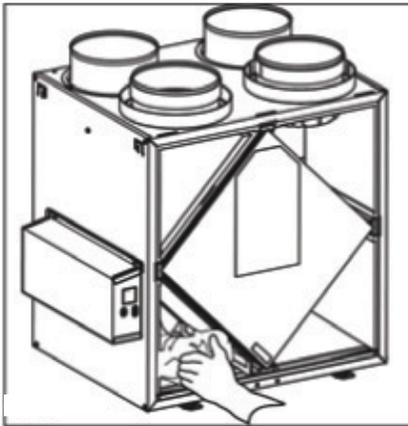


Fig. 26 – Quarterly Cleaning

A200581

1. Disconnect power cord.
2. The door of this unit is hinged and maintained closed by 2 latches. Open them and set aside.
3. Clean the inside of the door with a damp cloth.
4. Clean filters:
 - a. Remove filters.
 - b. Vacuum to remove most of the dust.
 - c. Wash with a mixture of warm water and mild soap. You may add bleach if you wish to disinfect (one tablespoon per gallon). Rinse thoroughly. Shake filters to remove excess water and let dry.

NOTE: The MERV13 filter is **NOT** washable. Vacuum the MERV13 membrane filter quarterly using the dusting brush attachment. It should be replaced when too dirty.

- d. MERV13 note: Pull out the core about 3-4" to install the MERV13 filter, install the filter on top of the core (follow the

orientation of the image), then push the core and filter together inside the unit.

5. Remove the core.
6. Clean the condensing tray with a damp cloth.
7. Check the exterior air intake hood:

IMPORTANT: A blocked air vent, even partially, can cause the unit to malfunction.

- a. Make sure there are no leaves, twigs, ice or snow that could be drawn into the vent.
- b. Clean if necessary.
8. Rotate the blower wheels by hand. If one of the wheels does not rotate easily, contact your installer.
9. Reassemble the components. Pay special attention to the filters by making sure that they are engaged in their slots.
10. Rotate the blower wheels by hand. If one of the wheels does not rotate easily, contact your installer.
11. Close the unit door and reconnect power supply.
12. Reset filters, if required. If using an optional main wall control (DEHUMIDISTAT OR AUTOMATIC), press on the INT/AUTO button for 5 seconds to reset the filters. If using the ADVANCED optional main wall control, follow the instructions on the touch screen.
13. Pull the core 3" to 4" out.
14. Bend the two MERV13 flaps down to form a 45-degree angle (Fig. 27).

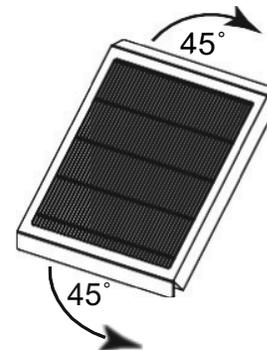


Fig. 27 – Bend Flaps to 45°

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15. Install the MERV13 filter over the core (Fig. 28).
16. Push the core and the MERV13 filter to the bottom of the unit.

NOTE: The optional MERV13 filter replaces the MERV8 filter. The MERV13 filter and HEPA membrane filter have the same Installation instructions.

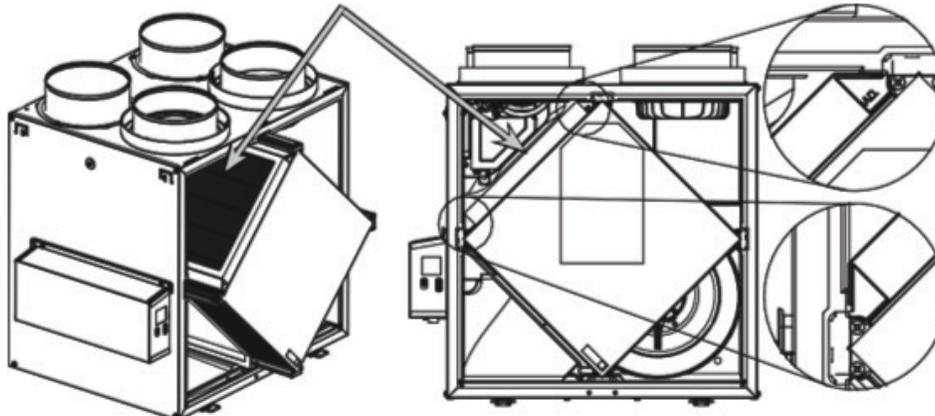


Fig. 28 – Optional MERV13 Filter or HEPA Membrane Filter

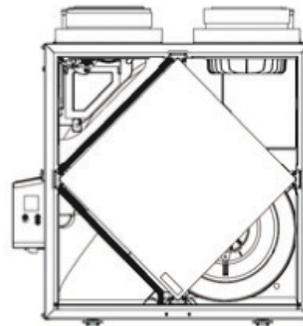
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ANNUAL (AT FALL)

- Repeat steps 1 to 6 from the previous section and continue with the following steps:

 CAUTION
UNIT DAMAGE HAZARD Failure to follow this caution may result in equipment damage or improper operation. Handle the recovery core with care.

- Clean the recovery core:



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HRV MODELS	ERV MODELS
<ol style="list-style-type: none"> Remove the core. Let it soak in a mixture of cold or lukewarm water and mild soap (dishwashing liquid). Rinse thoroughly. Shake the core to remove excess water and let it dry. 	<ol style="list-style-type: none"> Remove the dust on the core using a vacuum cleaner and a soft brush attachment. CAUTION: DO NOT SOAK THE ENERGY RECOVERY CORE IN WATER.
<ol style="list-style-type: none"> Clean the blower assemblies. Do not disassemble the blower assemblies. Remove the dust using a vacuum cleaner with a soft brush attachment. 	<ol style="list-style-type: none"> Reassemble the components. Reconnect power supply.

USER'S TROUBLESHOOTING

If the unit does not work properly, reset it by unplugging for one minute, then plug it back in.

Contact your local dealer for any unresolved issue.

PROBLEM	TRY THIS
1. Nothing works.	See if the unit is plugged in. See if the unit is receiving power from the house circuit breaker or fuse.
2. Noisy unit.	Clean the unit (MAINTENANCE on p21). If the problem is not solved, contact your installer.
3. Condensation inside windows under cold weather conditions.	Operate the unit at MAX speed during activities generating excess humidity (family gatherings, extra cooking, etc.). Leave curtains half-open to allow air circulation. Store all firewood in a closed room with a dehumidifier or in a well ventilated room, or store the wood outdoors. Keep the temperature in your house above 18°C (64°F).
4. Humidity inside under hot/humid weather conditions.	Operate the unit in MIN speed. Temporarily switch to INT mode (if available). Use a dehumidifier.
5. Air too dry.	Operate the unit at MIN speed. Temporarily switch to INT mode (if available). Temporarily use a humidifier.
6. Air too cold at the air supply register.	Make sure the outdoor hoods are not blocked. Operate the unit at MIN speed. Install a duct heater (contact your installer).