

INSTALLATION MANUAL

# Heat or Energy Recovery Ventilation System

MODELS: FC80 HRV & FC80 ERV



This device **MUST** be installed by a qualified agency in accordance with the manufacturer's installation instructions. The definition of a qualified agency is: any individual, firm, corporation or company which either in person or through a representative is engaged in, and is responsible for, the installation and operation of HVAC appliances, who is experienced in such work, familiar with all the precautions required, and has complied with all the requirements of the authority having jurisdiction.

Please retain these instructions after installation.

Installed By: \_\_\_\_\_ Phone: \_\_\_\_\_ Installation Date: \_\_\_\_\_



## IMPORTANT - PLEASE READ MANUAL BEFORE INSTALLATION

**CAUTION:** Do not install in a cooking area or connect directly to any appliance. Turn off all integral disconnects before servicing.

**NOTICE:** Prior to installing, serious consideration must be taken to insure this ventilation system will operate properly if integrated to any other type of mechanical system, i.e. a forced air system, or an air handling unit. To insure proper operation & compatibilities of both system, it is required that the airflow's of the Heat Recovery Ventilator (HRV) or Energy Recovery Ventilator (ERV) be balanced, by following the procedures found in this manual.

**LIMITATIONS:** The product is for residential applications only. Must be installed in accordance with all national and local regulations, building and safety codes.



### TO REDUCE OR AVOID THE HAZARDS OF ELECTRIC SHOCK AND FIRE: CAUTIONS CONCERNING THE OPERATION AND FULL EFFICIENCY OF THIS PRODUCT:

- Before servicing or cleaning the HRV/ERV system, always remove the power cord from the AC wall outlet.
- To reduce the hazards of electric shock or fire, do not perform any service to the HRV/ERV system other than those stated in the operating manual instructions.
- To reduce the risk of electric shock, this ventilation system (HRV/ERV) comes equipped with a 3-prong plug-in. This plug will fit in a polarized outlet only one way.
- Do not use ventilation system for outdoor application.
- Do not pull or twist power cord when disconnecting it from the ventilation system. Grasp the plug firmly, not the cord.
- Do not modify the power plug in any way; if modified, risk of electric shock fire or even damage to the unit may occur.
- Do not use the ventilation system for removal of flammable fumes, gases or connect directly to any appliances.
- Use a dedicated AC 120V outlet only.
- Do not obstruct or cover the air intake or air outlet of the ventilation system.
- Do not modify, repair or disassemble this system. These tasks are to be performed by authorized serviced personnel only. Fire, electrical shock and/or bodily injury may occur if these warnings are not followed.
- To prevent injuries, do not operate the ventilation system, while servicing or maintaining. There are impeller wheels turning at a very high speed that must fully stop rotating prior to accessing the inside of the unit.
- Always assess the operation of the ventilation system on how it may interact with vented combustion equipment (ie. Gas Furnace, Oil Furnace, Combustion, Appliances, etc.)
- Do not use for swimming pool/spa applications.

## ABOUT US

Field Controls is the only manufacturer that offers you a complete range of products designed to improve indoor air quality, and that provides a wide selection of accessories to facilitate installation.

Our vision – To offer a complete range of products that satisfies environmental concerns.

Whether your needs involve ventilation or filtration, we have the customized solution for you, with its range of quality products backed by the best warranty in the industry.

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# 1. VENTILATION REQUIREMENTS

## DETERMINE YOUR VENTILATION NEEDS INSTALLATION

How much fresh air do I need? Good air quality is based in part on the capacity of the home's ventilation system.

Usually, the HRV's/ERV's capacity is measured in CFM (Cubic Feet per Minutes) or L/s (Liters per Seconds) of fresh air being distributed in the living space. The Room Count Calculation or the Air Change per Hour Method shows you how to determine your ventilation needs. See chart on right.

### A. Room Count Calculation

LIVING SPACE	NUMBER OF ROOMS	CFM (L/S)	=	CFM REQUIRED
Master Bedroom	_____	x 20 cfm (10 L/s)	=	_____
With Basement	_____	x 20 cfm (10 L/s)	=	_____
Single Bedroom	_____	x 10 cfm (5 L/s)	=	_____
Living Room	_____	x 10 cfm (5 L/s)	=	_____
Dinning Room	_____	x 10 cfm (5 L/s)	=	_____
Family Room	_____	x 10 cfm (5 L/s)	=	_____
Recreation Room	_____	x 10 cfm (5 L/s)	=	_____
Other	_____	x 10 cfm (5 L/s)	=	_____
Kitchen	_____	x 10 cfm (5 L/s)	=	_____
Bathroom	_____	x 10 cfm (5 L/s)	=	_____
Laundry Room	_____	x 10 cfm (5 L/s)	=	_____
Utility Room	_____	x 10 cfm (5 L/s)	=	_____
TOTAL ventilation requirement (add last column) =				_____
				1 CFM = 0.47189 L/s
				1 L/s = 3.6 m3/hr

### B. Air Change per Hour Method

TOTAL cu ft X 0.35 per hr = total

Take total and divide by 60 to get CFM

Example: A 25'x 40' house with basement

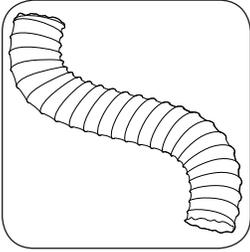
1,000 Sq. ft. x 8' high x 2(1st floor + basement) = 16,000 cu. ft.

16,000 cu. ft. x 0.35 ACH = 5,600 cu. ft.

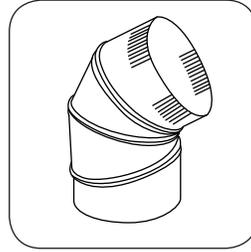
5,600 cu. ft. / 60 Minutes = 93.3 CFM

93.3 CFM IS YOUR VENTILATION NEED

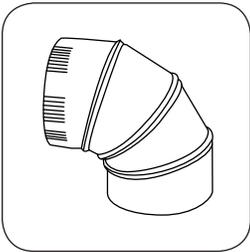
## 2. FITTING EQUIVALENT LENGTHS



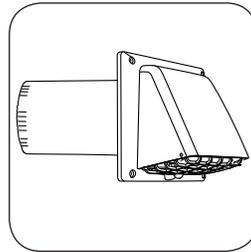
- Flex pipe equivalent length is smooth pipe x2
- Flex fitting equivalent length is smooth fitting x2



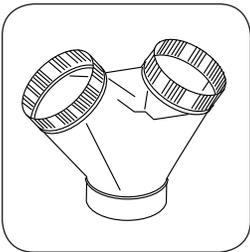
- 45° perimeter pipe elbow equivalent length = 5 ft. (1.52 m)
- NOTE: Where flex duct is used to make 45° elbow equivalent length = 10 ft. (3.0 m)



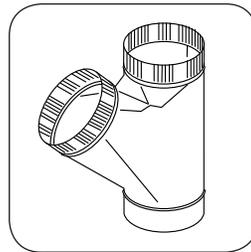
- 90° perimeter pipe elbow equivalent length = 10 ft. (3.0 m)
- NOTE: Where flex duct is used to make 90° elbow equivalent length = 20 ft. (6.1 m)



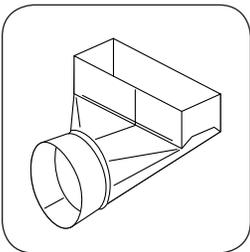
- Round wall cap spring damper or screen equivalent lengths = 60 ft. (18.29 m)



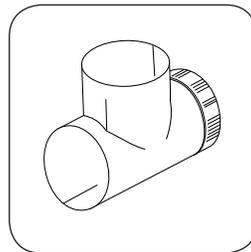
- Y-equal sides equivalent length = 10 ft. (3.0 m)



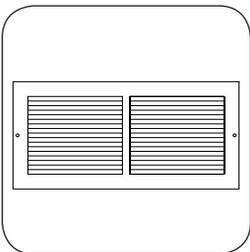
- Y-Side branch equivalent length = 35 ft. (10.7 m)



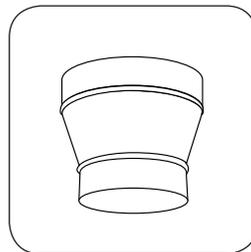
- Angle boot equivalent length = 30 ft. (9.14 m)



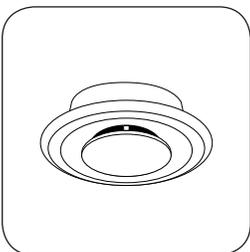
- Tee take-off equivalent length = 50 ft. (15.24 m)



- Wall grill 50% free area equivalent length = 15 ft. (4.6 m)



- Increaser/Reducer equivalent length = 8 ft. (2.43 m)



- Round plastic diffuser equivalent length = 100 ft. (30.5 m)
- NOTE: Maximum airflow assumes diffuser is in full open position.

### 3. TYPES OF INSTALLATIONS

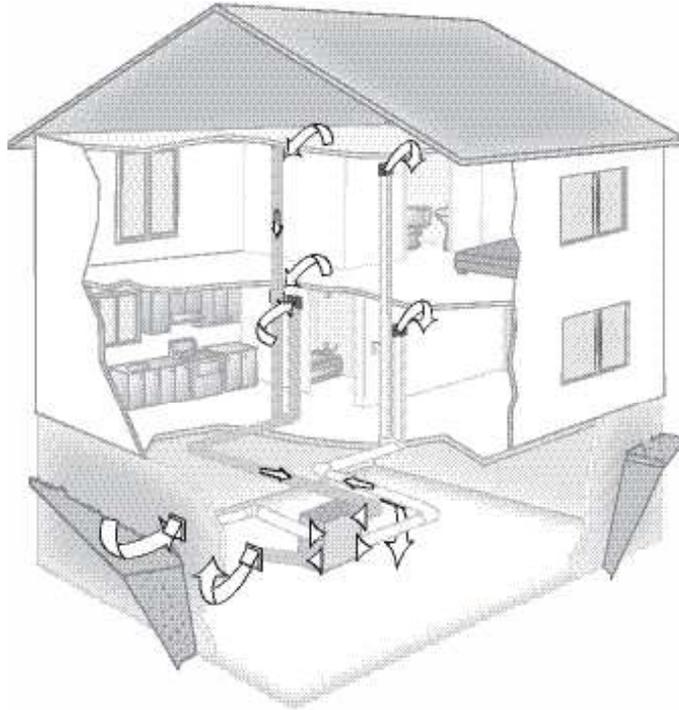
#### INDEPENDENT SYSTEM INSTALLATION

Figure 3.1

This application uses a devoted duct system for the supply and the exhausting of stale air accumulated in the home.

It is recommended to install fresh air grilles in all bedrooms and living areas. Exhaust the stale air from the bathroom, kitchen and laundry room. (see Figure 3.1)

**IMPORTANT:** For optimal performance of your HRV or ERV, the installation of an optional 6" round galvanized backdraft damper is required on the fresh air to home duct work.



#### EXHAUST AT THE SOURCE AND SUPPLY IN THE RETURN

Figure 3.2

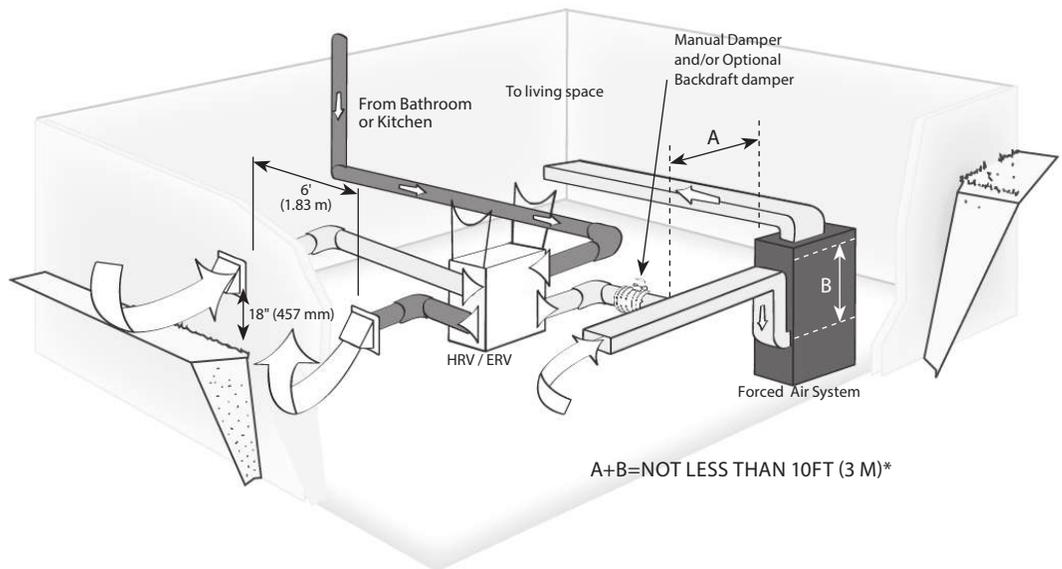
This application uses a devoted duct system for the exhausting of stale air accumulated in the home. The fresh air is dumped into the return air duct and is distributed thru the home by the existing supply air ductwork of the forced air system. (see Figure 3.2)

Make sure when using this application that your fresh air duct connection to the forced air system return air duct is not less than 10ft (3 m) upstream of the return plenum connection to the forced air system. Check with your local code or the forced air system's manufacturer. The HRV and forced air system must be in continuous mode, to achieve maximum comfort and to avoid cross-contamination.

**NOTE:** Dwellings with multiple forced air systems requires one HRV/ERV per system.

Insure the unit runs in conjunction with forced air system (Ref. wiring diagram for furnace interlock, see page 13)

**IMPORTANT:** For optimal performance of your HRV or ERV, the installation of an optional 6" round galvanized backdraft damper is required on the fresh air to home duct work. When performing duct connections, always use approved tools and material. Also use steel duct connections for these type of installs.



**IMPORTANT:** The duct bringing outdoor air to the return air plenum must be equipped with a manual damper to balance the outdoor airflow.

\* For minimum distance between return and forced air system, check with your local building codes and forced air system manufacturer.

### 3. TYPES OF INSTALLATIONS (CONTINUED)

#### EXHAUST AND SUPPLY IN THE RETURN

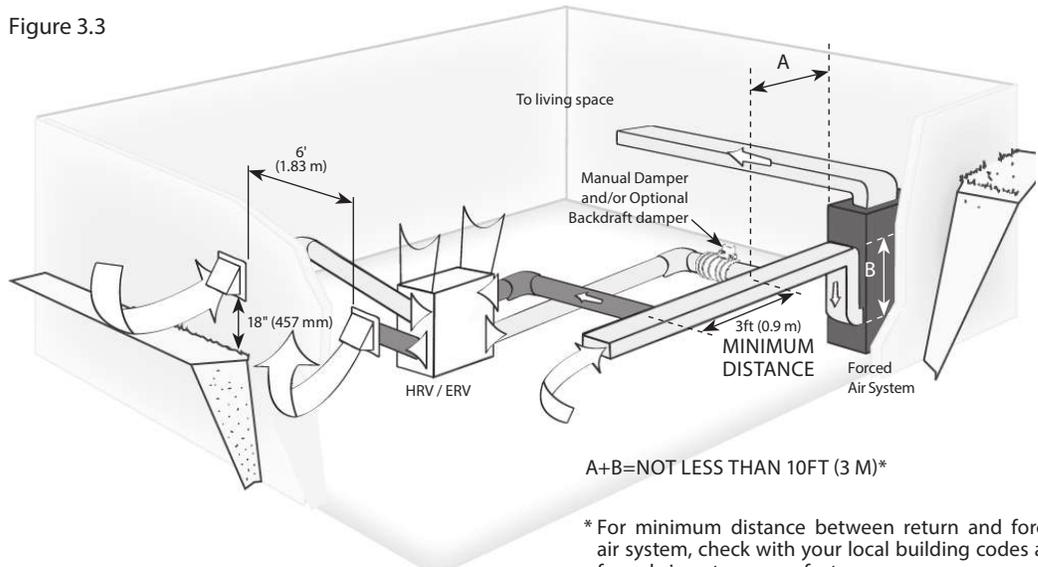
When using this application make sure that there is minimum 3 ft (0.9 m) between the fresh air and exhaust air connections of the HRV/ERV in the return air duct. (see Figure 3.3)

Make sure when using this application that your fresh air duct connection to the forced air system return air duct is not less than 10 ft (3 m) upstream of the return plenum connection to the forced air system. Check with your local code or the forced air system's manufacturer. The HRV and forced air system must be in continuous mode, to achieve maximum comfort and to avoid cross-contamination.

**NOTE:** Dwellings with multiple forced air systems requires one HRV/ERV per system.

Insure the unit runs in conjunction with forced air system (Ref. wiring diagram for furnace interlock, see page 13)

Figure 3.3

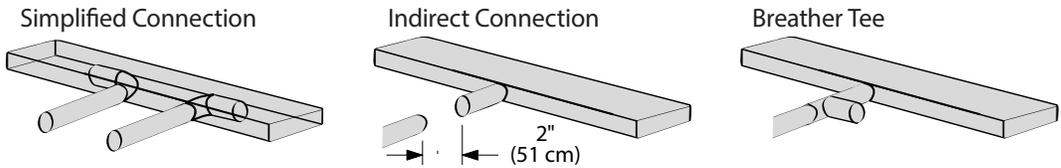


**IMPORTANT:** The duct bringing outdoor air to the return air plenum must be equipped with a manual damper to balance the outdoor airflow.

\* For minimum distance between return and forced air system, check with your local building codes and forced air system manufacturer.

**IMPORTANT:** Building and combustion appliance installation codes do not allow return air grilles or openings such as "breather tee" or indirect connections in an enclosed room that is susceptible to spillage of combustion appliances. (see Figure 3.4)

Figure 3.4



**IMPORTANT:** For optimal performance of your HRV or ERV, the installation of an optional 6" round galvanized backdraft damper is required on the fresh air to home duct work. When performing duct connections, always use approved tools and material. Also use steel duct connections for these type of installs.

## 4. INSTALLATION KIT

### INCLUDED IN THE INSTALLATION KIT:

- 4 Collars
- 4 Caps, Pressure Taps
- 1 Condensation Drain Line
- 1 Drain Adapter with Nut
- 12 screws (#10 x 1<sup>1</sup>/<sub>4</sub>" )
- 2 screws (#8 x 3<sup>3</sup>/<sub>8</sub>" )
- AC 120V power cord
- Wall Mounting Bracket

Figure 4.1



## 5. FINDING A SUITABLE INSTALLATION AREA FOR HRV OR ERV

The HRV/ERV unit should be installed in a mechanical room or as close to an outside wall as possible. This would assure a short run of insulated flexible duct.

The HRV/ERV unit must always be installed in an area where the air is tempered to avoid freezing of the condensate line. The contractor should install the unit in an area that is very accessible to allow the homeowner easy access for maintenance.

It is very important to install an electric receptacle (115v) near the HRV / ERV, a separate circuit breaker is also recommended. You should have access to a condensate drain near the HRV/ERV to avoid the use of condensate pump.

## 6. INSTALLATION OF THE HRV / ERV

**IMPORTANT:** Minimum installation requirements

A) Minimum two 2"x 4" (50.8 mm x 101.6 mm) wood wall studs and minimum 3/8" (9.5 mm) thick drywall is required to secure the HRV/ERV wall bracket.

B) Support for weight of 80 lbs, which includes HRV/ERV, duct connections and accessories.

Proper installation requires that the unit be secure to the wall. If there is no wall studs available, please secure a 3/4" plywood to wall studs then fasten wall mounting bracket to plywood.



Figure 6.1 Installation of the wall bracket. Secure with two #10 x 1<sup>1</sup>/<sub>4</sub>" screws.

**INSTALLER TIP:** If the unit is not level, improper drainage will occur and could lead to moisture and leakage problems.

It is recommended to use approximately 16 inches of flexible duct between the HRV/ERV and your rigid duct. The flex duct is mounted the same way to the HRV/ERV as the insulated flex.



Figure 6.2 Hang HRV/ERV to wall mounting bracket.



Figure 6.3 When completing the procedure make sure that the HRV/ERV is leveled.

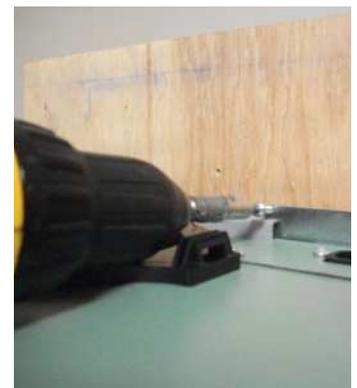


Figure 6.4 Proceed to secure HRV/ERV to bracket with the two #8 x 3<sup>3</sup>/<sub>8</sub>" screws.

## 7. INSULATED FLEX FROM UNIT TO OUTSIDE WALL

**INSTALLER TIP:** To ensure a better installation and to avoid an undesired bend in the duct, align the duct with the collar before securing over the four hooks.



**WARNING:** Always fix and secure the 5" collars with the screws supplied. Avoiding this critical step the unit will accumulate condensation.

Once insulated flex is attached to the collar, slide collar in keeper section, fixed collar to the unit with four screws supplied in installation kit.



Figure 7.1 Insert vinyl duct over the hooks and seal with a Tie wrap.



Figure 7.2 Insert insulation inside the collar.



Figure 7.3 Finish by taping the duct on the collar.



Figure 7.4 Slide collar on the unit.



Figure 7.5 Fix and secure the collars to the HRV/ERV with the #10 x 1 1/4" screws, supplied in kit.

## 8. CONDENSATION DRAIN LINE

Insert the threaded drain adapter thru the bottom of the HRV/ERV and hand tighten the plastic nut, and with a wrench tighten the nut another half turn to assure a better seal.

Install the condensate line (included in drain kit). Insert condensate tubing by pushing clear plastic line over drain adapter. Make condensate trap by looping the clear plastic tubing. This procedure is to avoid foul odor to enter the HRV or ERV.

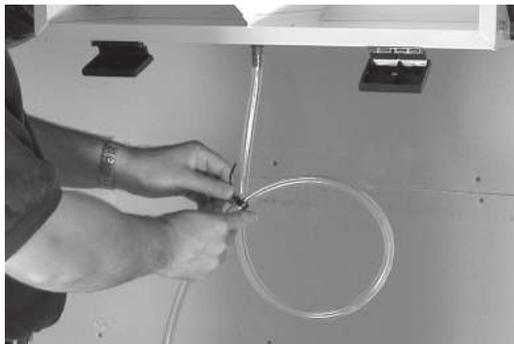


Figure 8.1 Make a loop in condensate line, not be subject to freezing temperatures.



Figure 8.2 Use a condensate pump if you don't have access to a drain.

## 9. DEDICATED ELECTRIC RECEPTACLE

**IMPORTANT:** Always consult a certified technician to insure proper installation of main power.

**NOTE:** If LED light on the control panel remains green, motors are not energized and controls do not operate, therefore polarization in main AC outlet are inverted.

It is recommended that the HRV/ERV have a dedicated receptacle with 115v. It is not recommended to connect unit with an extension cord.

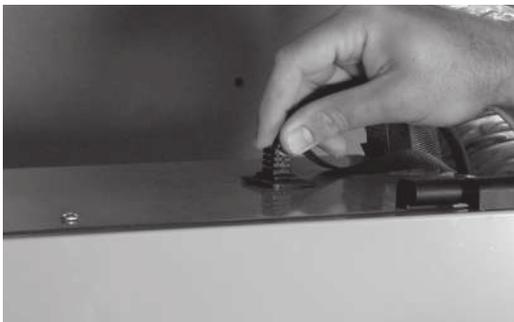


Figure 9.1 Insert the power cord on top of the unit. Press firmly to make sure the power cord is secure.

## 10. OUTSIDE FRESH AIR AND EXHAUST AIR HOODS

**INSTALLER TIP:** We recommend and it is good practice to have a minimum of 6 ft (1.83 m) between the supply and exhaust vents, unless using a concentric vent design to prevent contamination of intake air.

**NOTE:** Outdoor air intake hoods shall be located to avoid contamination from sources such as:

- Exhaust air openings
- Driveways (auto exhaust)
- Combustion appliances
- Gas meters, oil fill pipes
- Garbage containers
- Attics or crawl spaces
- Under deck or other areas of questionable air quality



Figure 10.1 Locating Outside Hoods

**IMPORTANT:** Always consult your national and local regulations, building and safety codes.

## 11. THE MATRIX™ HIGH PERFORMANCE VENTILATION HOOD (OPTIONAL COMPONENT)

### AIRFLOW & INSTALLATION

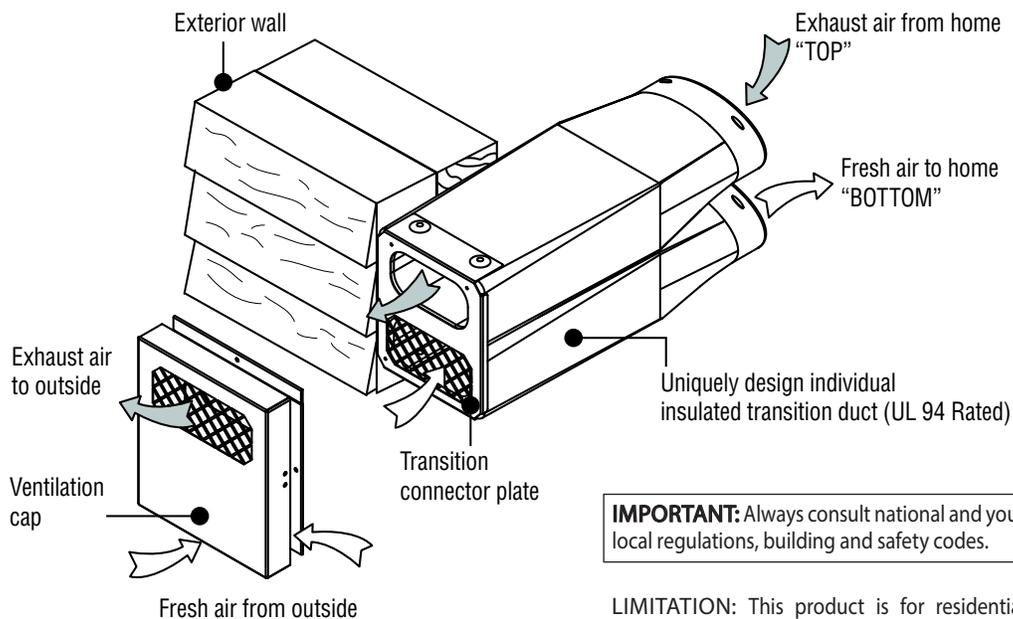
**IMPORTANT:** Install ventilation hood a minimum of 18" (457mm) above grade.

Do not install under a deck, enclose porch, patio, garages, crawl spaces or attics.



**WARNING:** Insure the ventilation hood is at a minimum clearance of 6 ft (1.83 m) away from the exhaust vents of a combustion source and contaminants.

Ex: Gas furnace, dryer, gas boilers, range hoods, barbecue, garbage bin, driveway or garage.

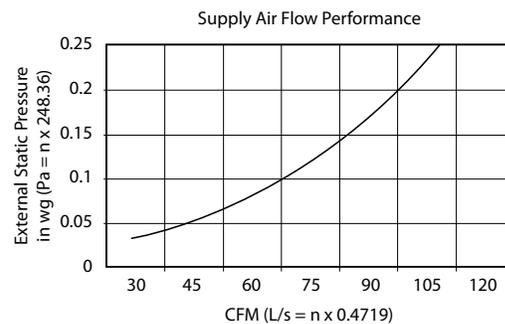
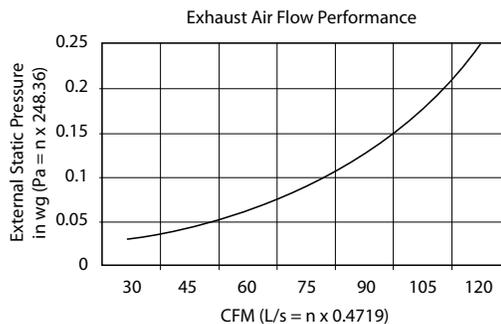


**IMPORTANT:** Always consult national and your local regulations, building and safety codes.

**LIMITATION:** This product is for residential applications only.

### AIRFLOW PERFORMANCE DATA

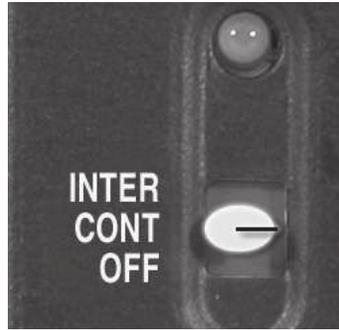
**LIMITATIONS:** This product is for residential applications only. Must be installed in accordance with all current national and local regulation building and safety codes.



## 12. BENEFITS OF THE CONTROL SYSTEM

### MODE SELECTOR

- Intermittent (INTER)
- Continuous (CONT)
- Off



### ACTS AS A MODE SELECTOR

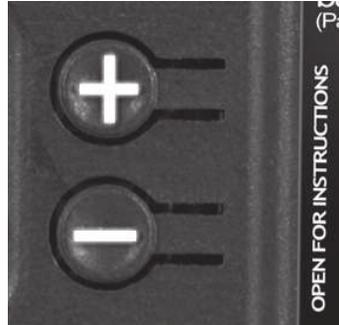
**INTERMITTENT:** When the selector switch is in the intermittent position the HRV/ERV will only run when there is a call for ventilation by any control. At that time the unit will run on high speed until the condition is satisfied.

**CONTINUOUS:** When the selector switch is in the continuous position the HRV/ERV will run continuously on pre set speed except when there is a call for override by any control.

**OFF:** When the selector switch is in the off position the HRV/ERV will not come on even if there's a call for ventilation by any control.

### SPEED ADJUSTMENT

- Increase Speed (+)
- Decrease Speed (-)



+ BUTTON: Increases the speed of the selected motor.

- BUTTON: Decreases the speed of the selected motor.

## 13. BALANCING THE UNIT

### WITH THE CONTROL SYSTEM



#### GREEN LIGHT MODE SELECTOR

### USING THE SELECTOR SWITCH

**TIP TO INSTALLER:** When on Balancing Mode, the Selector Switch allows you to choose the motor you want to set.

#### A) CLOSED CONTROLLER COVER

1. INTER (Exhaust Motor)
2. CONT (Both Motors)
3. OFF (Supply Motor)

#### B) OPEN CONTROLLER COVER

1. UP (Exhaust Motor)
2. MIDDLE (Both Motors)
3. DOWN (Supply Motor)



#### YELLOW LIGHT BALANCING MODE

### CONTROLLER BALANCING SYSTEM PROCEDURES, STEPS 1 THROUGH 8.

**Step 1:** Press the (+) and (-) buttons simultaneously until you see the yellow light. Once the indicator light turns yellow you are in balancing mode.

**Step 2:** When in balancing mode the selector switch becomes the motor selector switch. INTER (Right Motor), CONT (Both Motors) and OFF (Left Motor)

**Step 3:** Once the total cfm needed is determined, you can start balancing the HRV/ERV. Set your fresh air supply by selecting the «OFF» position on the controller. Install your magnehelic gauge and air flow grid in the fresh air duct.

**Step 4:** Press the (-) button to decrease the cfm or press the (+) button to increase the cfm.

**Step 5:** Then perform the same operation on the stale air side by selecting the «INTER» position on the controller.

**Step 6:** The «CONT» position will allow you to adjust the cfm on both motors proportionately (if necessary).

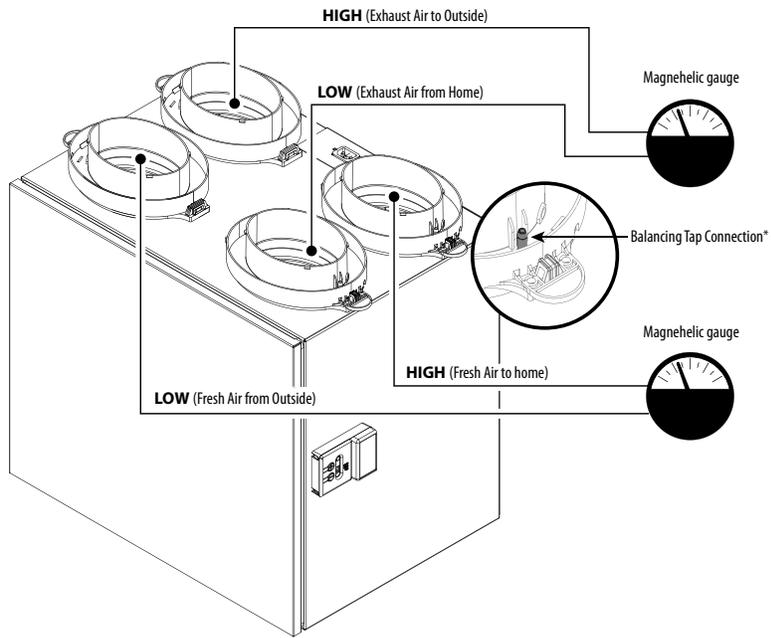
**Step 7:** Once this is completed, you have set the high speed on your HRV/ERV. To lock balancing mode you must press (+) and (-) buttons simultaneously and release. The indicator light will turn green to indicate normal operation mode.

**Step 8:** Once high speed is set and locked, switch to continuous on the Duotrol™. By using (+) and (-) buttons set low speed on the HRV/ERV.

## 13 BALANCING THE UNIT (CONTINUED)

### WITH THE CONTROLLER SYSTEM AND THE INTEGRATED BALANCING TAPS AND MAGNEHELIC GAUGE.

Connecting the Magnehelic gauge to the collar balancing taps, then proceed to section 13 (on page 10) Controller Balancing System Procedures and follow the Steps 1 through Step 8.



**\*IMPORTANT:** Once balancing is complete, insure all four pressure taps are sealed with the rubber caps. Pressure taps supplied in the installation kit.

### BALANCING CHART

The balancing chart is based on a Delta P (DP) measurement (also located on the access panel of the ventilation system)

**NOTE:** To perform a proper install, the External Static Pressure (ESP) needs to be measured at each of the 4 stations. Then proceed to measure the Delta P(DP) to determine the corresponding airflow (e.g. 50 CFM), then do the iteration until the unit is balanced both the (ESP and airflows).

### Balancing Chart when using collar pressure taps.

Pressure		Fresh Air		Exhaust Air	
Pa	in. wg	L/s	CFM	L/s	CFM
50	0.20	44	93	43	90
62	0.25	41	87	40	85
75	0.30	39	83	37	79
87	0.35	37	79	36	77
100	0.40	35	74	36	76
112	0.45	33	69	34	71
125	0.50	30	65	32	67
137	0.55	29	61	28	60
150	0.60	26	56	24	51
162	0.65	24	50	22	47
175	0.70	22	46	19	41
187	0.75	19	41	17	36
199	0.80	17	36	15	31

### WITH AN AIRFLOW GRID & MAGNEHELIC GAUGE



Magnehelic Gauge with Air Flow Grid



Inserting Air flow grid in duct



Seal Air flow grid in duct with duct tape.

# 14. CONTROLS CONNECTION

RD1 (2 wires)

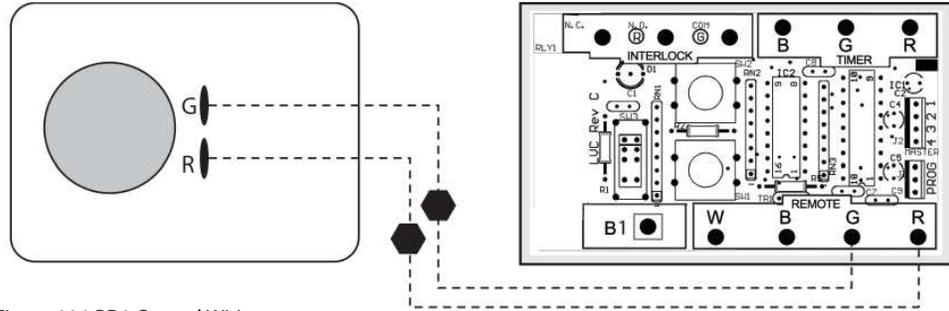


Figure 14.1 RD1 Control Wiring

RD4P (4 wires)

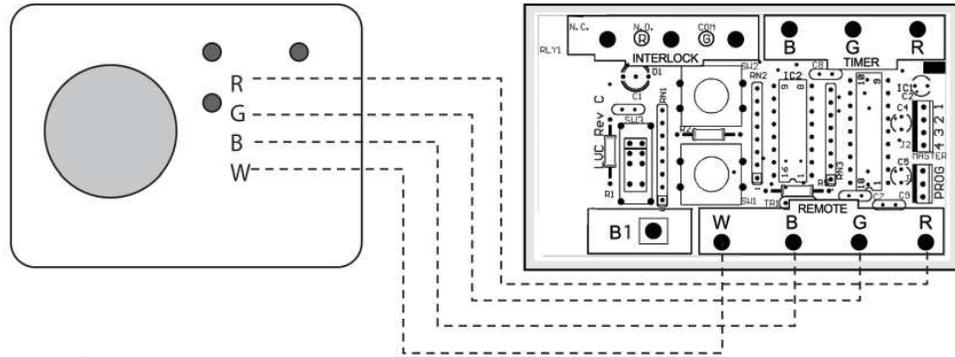


Figure 14.2 RD4P Control Wiring

T-3 TIMER

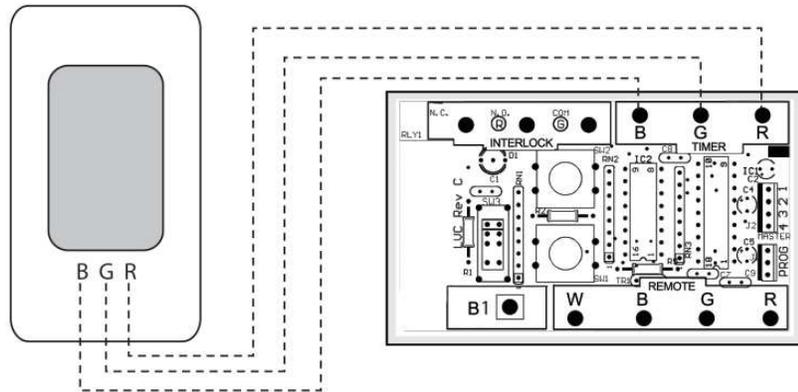


Figure 14.3 T-3 Control Wiring

EHC 1.0, EHC 1.5

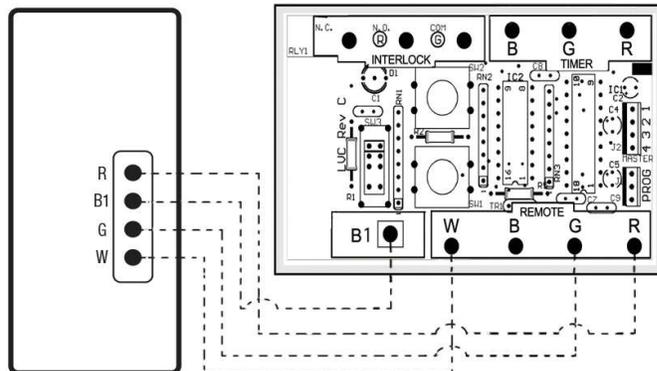


Figure 14.4 EHC Control Wiring

Legend: ----- Field Installed Low Voltage

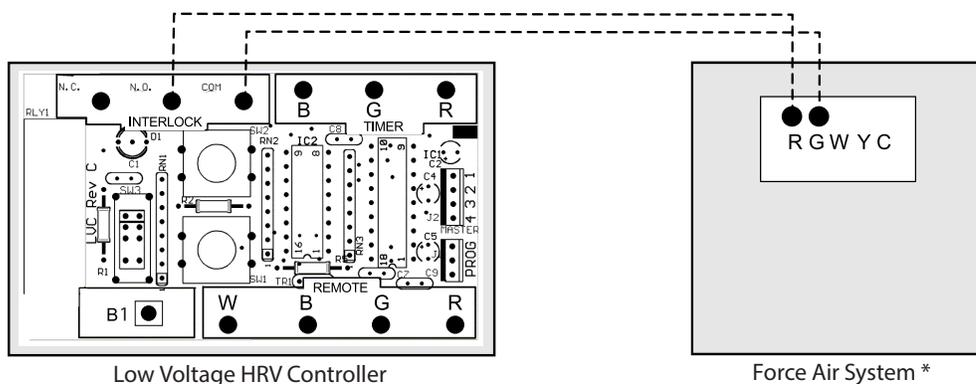


CAUTION: Minimum wire requirements is LVT18 CSA/UL 4 strain to insure proper connection.

# 15. WIRING DIAGRAMS FOR FURNACE INTERLOCK SYSTEMS

## STANDARD FORCED AIR INTERLOCKING WIRING

A relay is normally used when tying a ventilation system to the forced air distribution system. Our control system is equipped with an internal relay that will activate the forced air system's ventilator when there is a demand from the HRV /ERV. The control system will activate the INTERLOCK relay during the following modes: Continuous, Override, Recirculation and Defrost. (See wiring diagram, Figure 15.1)



Legend: ----- Field Installed Low Voltage

Figure 15.1 Standard forced air wiring diagram

## ALTERNATE FORCED AIR INTERLOCKING WIRING

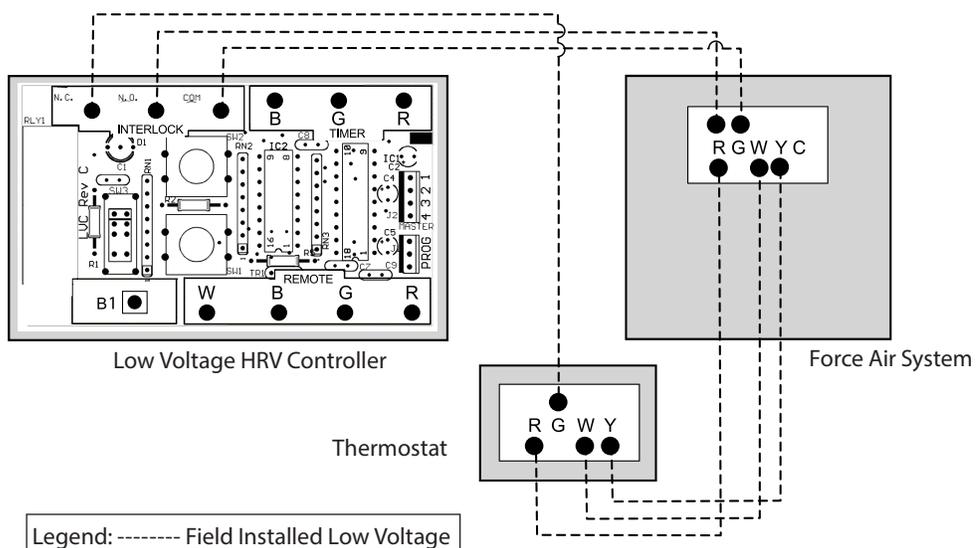
Some forced air system thermostat will activate the cooling system when tied using the «Standard forced air interlocking wiring».

If you have identify this type of thermostat you must proceed with the «Alternate Forced Air Wiring».

## LOCATING THE WIRING DIAGRAM

**NOTE:** Wiring Diagram for the entire line of HRV/ERV models are placed on the back of each exhaust motor bracket.

**CAUTION:** Thermostat that control A/C system must use the Alternate Interlock Wiring Diagram. (Figure 15.2)



Legend: ----- Field Installed Low Voltage

Figure 15.2 Alternate forced air wiring diagram

\*Before tying the HRV/ERV to a forced air system, always refer to system's manual or manufacturer.



**WARNING:** Always disconnect the unit prior to making any connections. Failure to disconnecting the power could result in electrical shock or can damage the electronic boards, wall controls and/or unit.

**CAUTION:** Minimum wire requirements is LVT18 CSA/UL 4 strain to insure proper connection.

## 16. TROUBLESHOOTING\*\*

QUESTION / ITEM	DIAGNOSIS / SOLUTION
• HRV/ERV not running	<ul style="list-style-type: none"> <li>• Verify breaker in main electrical panel</li> <li>• Verify the HRV or ERV is in the ON position</li> <li>• Verify the all wall controls switch on the HRV or ERV are activated to supply power to the unit</li> <li>• Unplug HRV or ERV verify if the controller is wired correctly to the connection box on the side of the unit</li> <li>• Verify main outlet polarization</li> </ul>
• Air is too dry	<ul style="list-style-type: none"> <li>• Reduce the humidity level on the controller</li> <li>• Reduce continuous airflow rate</li> <li>• Switch ventilation mode from continuous to intermittent</li> <li>• Humidifier recommended if heating source is a forced air system</li> </ul>
• Air too humid	<ul style="list-style-type: none"> <li>• Suggest continuous operation of HRV or ERV</li> <li>• Increase humidity level on dehumidistat</li> <li>• Increase continuous airflow rate</li> <li>• Insufficient ventilation, check capacity</li> <li>• Internal source of moisture, e.g. heating wood store in basement, possible leaks or poor insulation R-value and or dryer is venting in basement</li> </ul>
• Vibration or noise	<ul style="list-style-type: none"> <li>• Verify that vibration mounting straps, hanging chains or wall bracket is used for hanging the units</li> <li>• Verify that flexible duct connections are use between the HRV or ERV and the rigid duct</li> <li>• Verify that the motors are operating and are not obscured by any debris</li> <li>• Insure motor moves freely with turning by hand</li> </ul>
• Cold air	<ul style="list-style-type: none"> <li>• Misplaced supply outlets</li> <li>• Defrost no operating correctly</li> <li>• The HRV or ERV not properly balanced</li> <li>• High airflow on furnace continuous mode</li> <li>• Insure HRV or ERV is interlock when integrated with forced air system</li> </ul>
• Contamination or Pollutants	<ul style="list-style-type: none"> <li>• Insure proper clearance of ventilation hoods from source of contaminants Refer to section 10, page 9. Outside Fresh Air and Exhaust Air Hoods.</li> </ul>
• Condensation	<ul style="list-style-type: none"> <li>• Verify that the HRV or ERV is level to insure proper drainage</li> <li>• Verify that the duct connection are fix and secured with screws to the HRV or ERV</li> <li>• Verify the cold side duct connections are fully insulated and that vapor barrier is taped to insure a proper seal.</li> <li>• Look for signs of crushed section, failing duct straps, puncture vapor barrier, missing insulation</li> <li>• Insure proper seal of vapor barrier to outside wall</li> <li>• Look for sign of water accumulation/leakage/dripping</li> <li>• Verify that the drain connection is not kinked; the "P" trap is not to close to unit or obscured with debris</li> </ul>

\*\* If the suggestions above do not work, contact Field Controls Technical Support at 1.800.742.8368 or email [fieldtec@fieldcontrols.com](mailto:fieldtec@fieldcontrols.com) for additional assistance.

## 17. MAINTENANCE AND PARTS

### ROUTINE MAINTENANCE

#### SEVEN-STEP MAINTENANCE SCHEDULE

With routine preventative maintenance, you can avoid unnecessary problems, ensure the effectiveness of your HRV/ERV, and prolong its life. For additional specific instructions, refer to your HRV/ERV operating manual or ask the contractor who installed or services the HRV/ERV to demonstrate the proper maintenance procedures.



#### **WARNING:**

BE SURE TO DISCONNECT THE ELECTRICAL POWER BEFORE SERVICING YOUR SYSTEM

1. Clean or replace air filters. Filters, which are located within the HRV/ERV should be cleaned every two to three months. Filters should be vacuumed first, then washed with a mild soap and water. Most washable filters will last several years before needing to be replaced.
2. Clean the exterior intake and exhaust vents of obstructions. Check the outside vents regularly to ensure that the screen openings are not obstructed by grass, bushes, leaves, snow or other debris.
3. Clean and inspect the heat exchange core and louvers twice a year and clean it as required. A build-up of dust and dirt can restrict airflow and reduce the efficiency of your HRV/ERV. After inspection and cleaning, make sure the core is replaced right-side-up.
4. Clean the condensate drain and pan. Twice a year, check the condensate drain and tubing to ensure that they are open and free-flowing. The tubing can be disconnected for cleaning. The condensate drain must have a "trap" in the tubing that traps a quantity of water – to prevent air from entering the HRV/ERV via this tubing.
5. Service the fans. The fans on the HRV/ERV's are designed to operate continuously without lubrication. Inspect the blower fans periodically for dirt on the blades, and remove it by gently brushing the blades or using a vacuum cleaner.
6. Clean the grilles and inspect the ductwork. Clean the grilles when they are dusty. At least once a year, visually inspect the ductwork leading to and from the HRV/ERV. Damaged ducts can lead to condensation problems, including wet insulation, water on the floor and, ice build-up. If the insulation itself is damaged.
7. Arrange for an annual servicing. Your HRV/ERV should undergo annual general servicing by a certified contractor and who is familiar with your HRV/ERV. If possible, have your furnace and HRV/ERV serviced at the same time; this will result in less inconvenience and cost than two separate visits.

PART DESCRIPTION	FIELDCONTROLSPARTNUMBERS
Filter, Replacement FC80HRV/ERV	73000006080
The Matrix Single Port Ventilation Hood	60510010075
EHC 1.0 Digital Ventilation Control	60510010010
EHC 1.5 Digital Ventilation Control	60510010011
RD1 Res Dehumidistat Basic Control	60510010030
RD4P Res Dehumidistat Deluxe Control	60510010031
T-3 Timer 30/60/90 Push Button	60510010050
R2-VH4 4" Outdoor Vent Hood	60510010070
R2-VH5 5" Outdoor Vent Hood	60510010071
R2-VH6 6" Outdoor Vent Hood	60510010072
Kit Replacement PCBS HRV/ERV 150/200	60510010090
Kit Replacement PCBS HRV/ERV 80	60510010091

This manual may be downloaded and printed from the Field Controls website ([www.fieldcontrols.com](http://www.fieldcontrols.com))

#### WARRANTY

For warranty information about this or any Field Controls product, visit:  
[www.fieldcontrols.com/warranty](http://www.fieldcontrols.com/warranty)

Field Controls Technical Support  
1.800.742.8368  
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