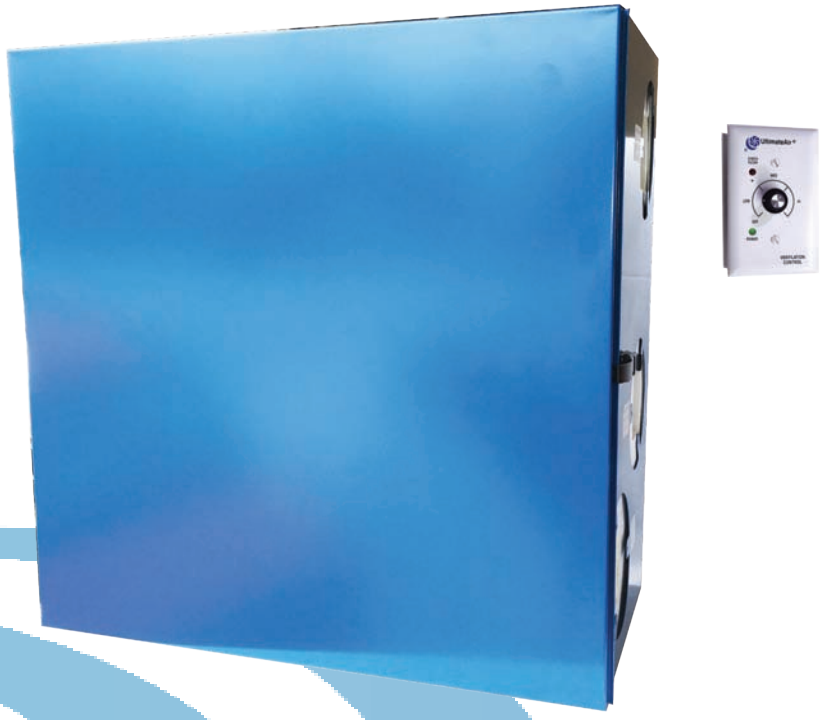
UltimateAir®

Whole House Fresh Air ERV

Models
ER80M
ER80M-E non UL



Manual & Installation Guide

UltimateAir
RecoupAerator

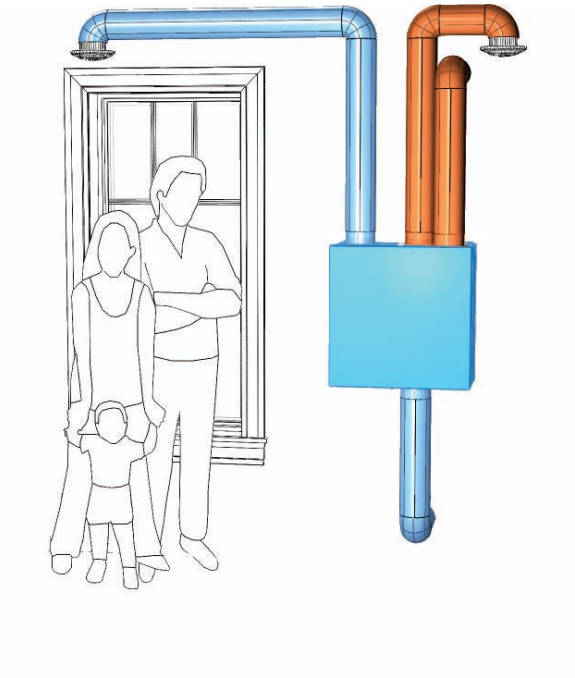
740.594.2277 www.UltimateAir.com info@ultimateair.com

Introduction

Welcome to the most advanced whole-house air filtration & Energy Recovery Ventilation on the market today.

Energy Recovery Ventilation (ERV) means this machine captures temperature and a portion of the moisture from the stale, outgoing air and transfers it to the incoming Fresh Air. No matter what the season, you will be comfortable breathing fresh clean air.

In addition to having an energy transfer rating of 99% ASE, the UltimateAir ER80M moderates indoor humidity in the winter and turns away outdoor humidity in the summer.



- Filtration 95% at 1.8 microns (MERV 12)
- Exceeds ASHRAE 62.2
- Variable Airflow with Quiet operation
- Low/Easy maintenance
- Automatic Frost Prevention @ 10° F
- No Condensation Drain needed
- 2-year Warranty, Extended Available
- 3 Brushless EC Motors with Sealed Ball Bearings
- EconoCool™ (brings in cool, filtered night air in summer)
- Up to 75% moisture transfer capability (depending on season)
- Optional Transmitter for real-time changes in indoor air pressure
- Optional CO_2 monitor adjusts airflow for elevated CO_2
- Compatible with many IAQ monitors
- Filter service indicator
- Fully insulated

Specifications

All models include pre-filter, patented energy transfer/filtration material, 3 motors, fans, variable blower speed control, “check filter” indicator light, & auxiliary IAQ control inputs.

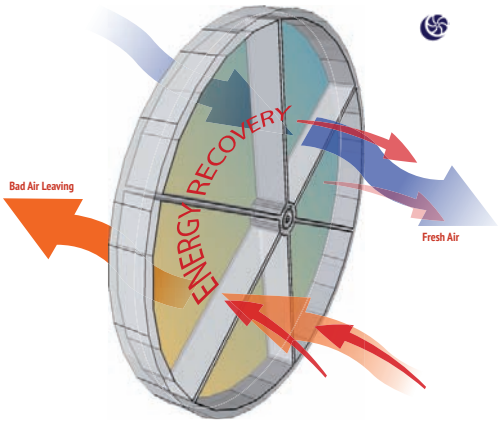
These controls allow you to adjust the airflow as needed to maintain a comfortable level of fresh air. The “check filter” indicator light is designed to let you know when to clean or replace the energy transfer/filters.

Model ER80M: UL1812 & CSA 22.2 Listed
Model ER80M-E: Non UL Listed

Airflow Capacity ~30– 100CFM

Apparent Sensible Effectiveness (ASE) 99%... Testing In Accordance with CAN/CSA-C439

Heat Exchange Type Patented rotary random matrix polymer



Filtration material 95% effective at 1.8 microns (MERV 12), replaceable, with separate washable aluminum pre-filter.

Frost Control Automatic Frost Prevention @ 10° F. Programmed to automatically prevent frosting down to approximately 10˚ F. During this mode, the Wall Dial Green Light will be flashing. Electric or Geo-thermal Preheating Available as a frost control option.

Electrical Ratings 120 VAC, single phase, 3 AMP max no preheat 6 AMP max with preheat.

Fuse 10Amp, 125Volt

Dimensions

23¼ in. H x 23 ½ in. W x 12 ½ in. D

(59.1 cm H x 59.7 cm W x 31.8 cm D)

Unit Weight 60 lb (27 kg)

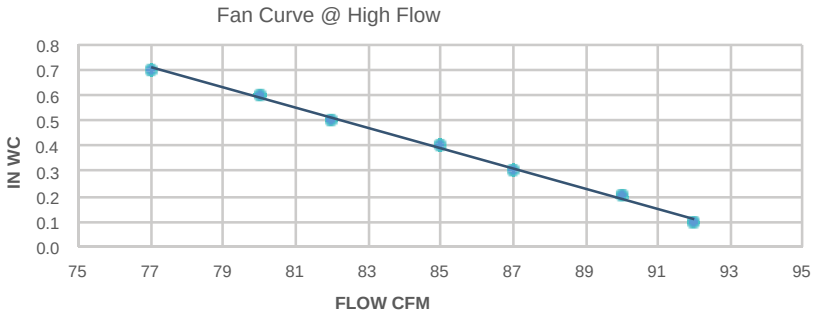
Mounting May be mounted vertically or horizontally, suspending from ceiling joists, or on a shelf in conditioned mechanical spaces such as attics, basements, and utility rooms. Four duct collars included are 5” in diameter.

Maintenance Check Filters/Wheel every 6 months.

Performance Data

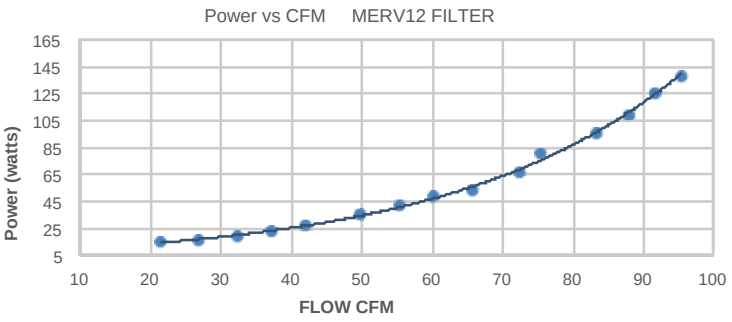
UltimateAir ER80M		Tested CAN/CSA-C439-09		
	Supply Temperature °F	Net Airflow CFM	Sensible Recovery Efficiency	Apparent Sensible Effectiveness
HEATING	32	89	84	99
	39.2	89	82	99
	17.6	89	88	99
	5	89	81	97
COOLING	95	89	45 TRE	79

Fan



IN WC	CFM	WATT
0.1	92	156
0.2	90	154
0.3	87	152
0.4	85	152
0.5	82	149
0.6	80	147
0.7	77	144

Power *The power curve was generated using the average airflow rate over all four ducts.*

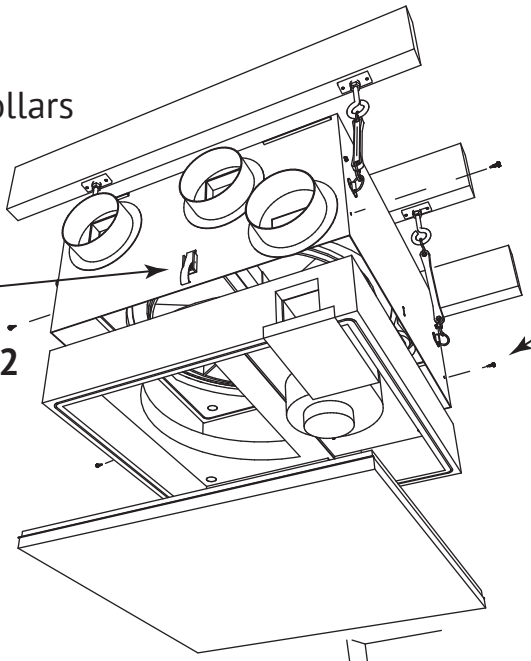


CFM	POWER	Watt/CFM	Range
21	15	0.70	LOW
27	16	0.60	
32	19	0.59	
37	23	0.62	
42	28	0.66	
50	35	0.70	
55	43	0.77	
60	50	0.83	MED
66	54	0.82	
72	67	0.93	
75	80	1.06	
83	95	1.14	
88	109	1.24	
91	125	1.37	
95	137	1.44	HIGH

Note: Curves are generated from actual test data and should only be used as general guidelines. Actual results may vary.

Service ER80M
Hanging Horizontal

Note: Seal around duct collars will need removed



step 1

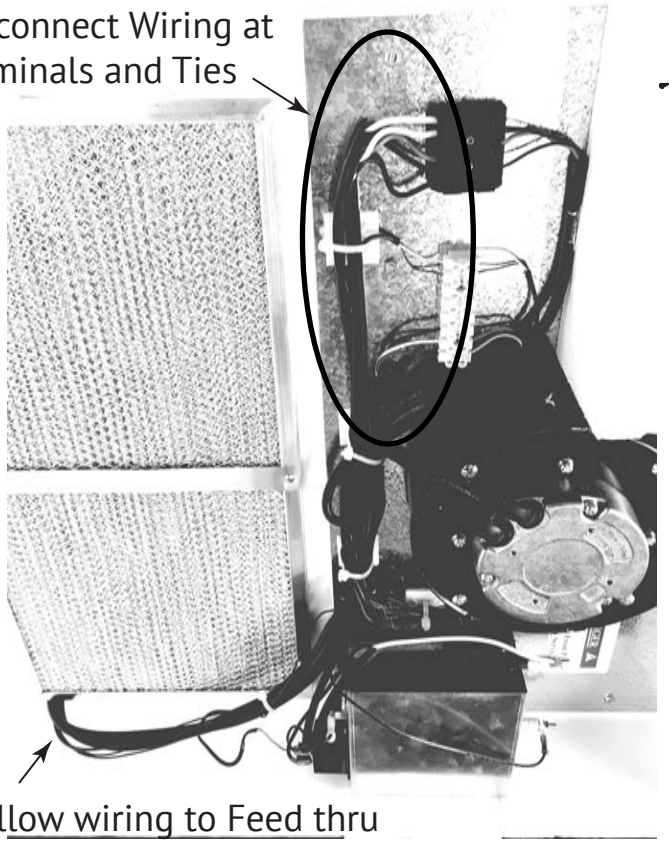
Filters & Exhaust Blower 2
Open Latches &
remove bottom cover.

step 3

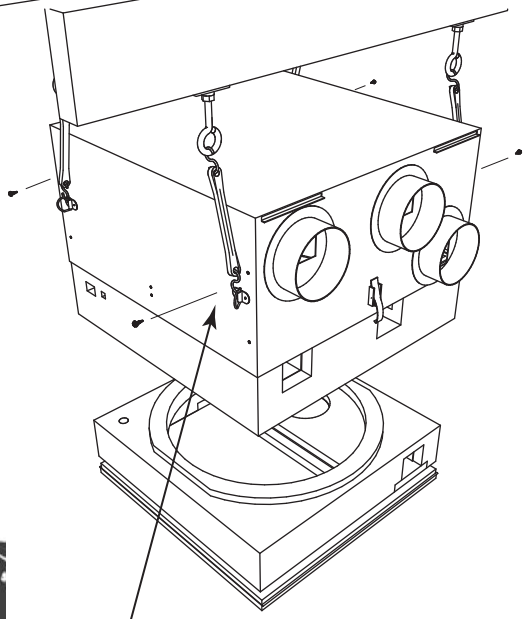
Belt Service
Remove four lower screws allowing lower blower assembly to be carefully removed.

step 2

Disconnect Wiring at terminals and Ties



Allow wiring to Feed thru
as lower blower assembly is removed.



step 4

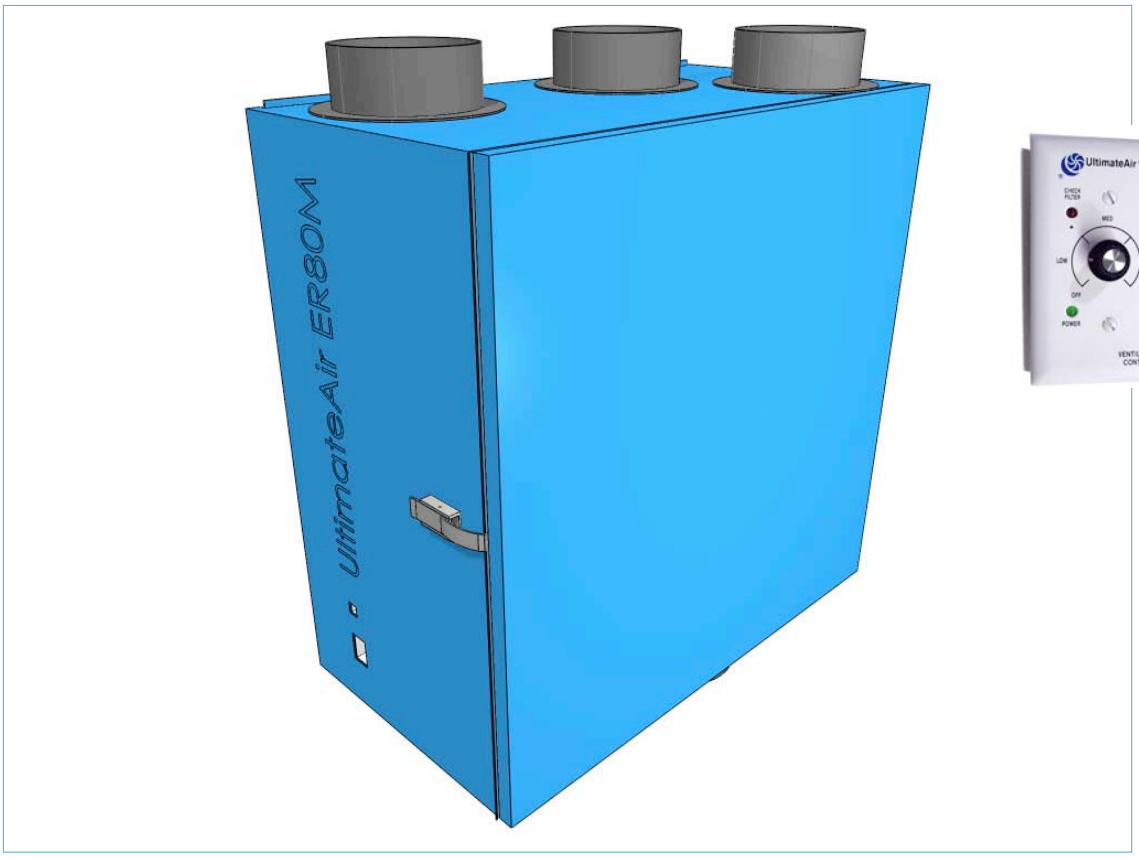
Fresh Air Blower 1,
Low Voltage Control & Aux Wiring
Remove upper screws from both sides allowing upper blower assembly with wheel to be lowered

Installation & Ducting

We recommend a licensed HVAC technician install this product, because of complex considerations such as airflow dynamics and condensation issues. Please read these instructions carefully before beginning any installation procedure. Failure to follow them closely may reduce ventilation effectiveness, cause a hazardous condition, and/or invalidate your warranty. Installation by non-licensed HVAC personnel may void the warranty.

Unpack your RecoupAerator and check to be sure the following items are included and undamaged:

- UltimateAir RecoupAerator ER80M Energy Recovery Ventilator with four (4) 5” diameter starter collars.
- Wall mount control dial pre-wired for test run.
- Literature package with this manual, & warranty registration.



When installing:

1. **Test Run** the RecoupAerator by plugging into a power outlet, and adjust the blower speed with the included Wall Dial. Familiarize yourself with the intake and outlet duct configuration and installation dimensions. Decide how you will mount the unit. We recommend ACCA's manuals D & J for proper load calculations and duct sizing.
2. After installation is complete, fill in contractor's name and phone number on the last page of this manual, and please **complete the Warranty Registration** to validate the installation.

CAUTION

Always disconnect the power source before wiring to prevent electrical shock and/or equipment damage.

Electrical requirement: 120 VAC, single phase, 3 AMP max no preheat or 6AMP max with preheat

The RecoupAerator is equipped with a three-pronged grounding plug for your protection against shock hazards and should be plugged directly into a properly grounded, 120V, three-pronged wall receptacle. If only a two-pronged outlet is available, it must be replaced with a properly grounded three-pronged receptacle in accordance with the National Electrical Code and local codes and ordinances. A qualified electrician should do this work. Use proper circuit protection. If you have any doubts about the grounding in your house, contact a qualified electrician.

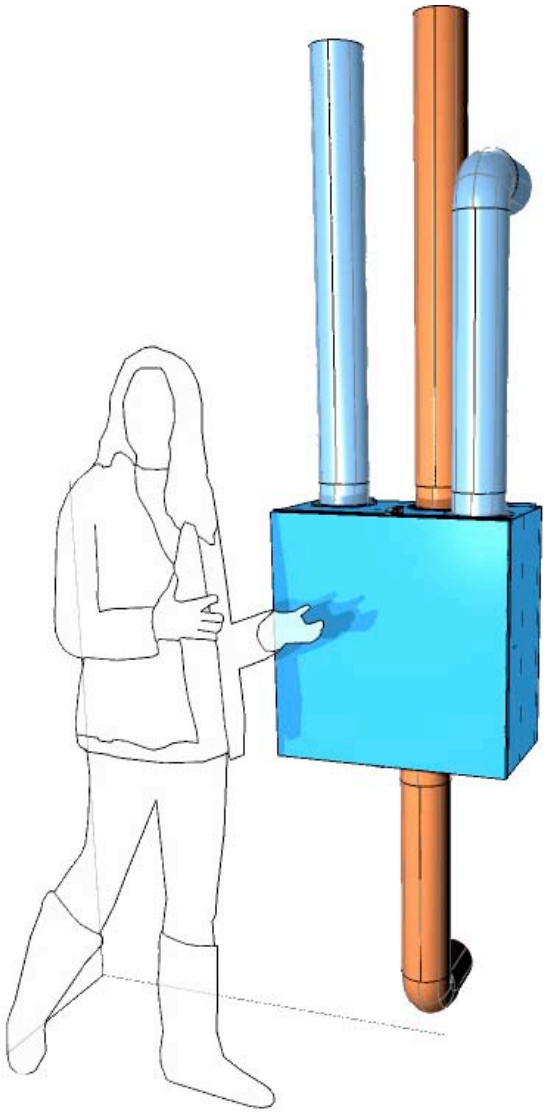
Positioning the RecoupAerator

We recommend the RecoupAerator be mounted in a conditioned space, as this will affect the performance and longevity of the unit. If the RecoupAerator is installed in an unconditioned space, the section(s) of inside ducts, and possibly the unit itself must be insulated from the unconditioned environment.

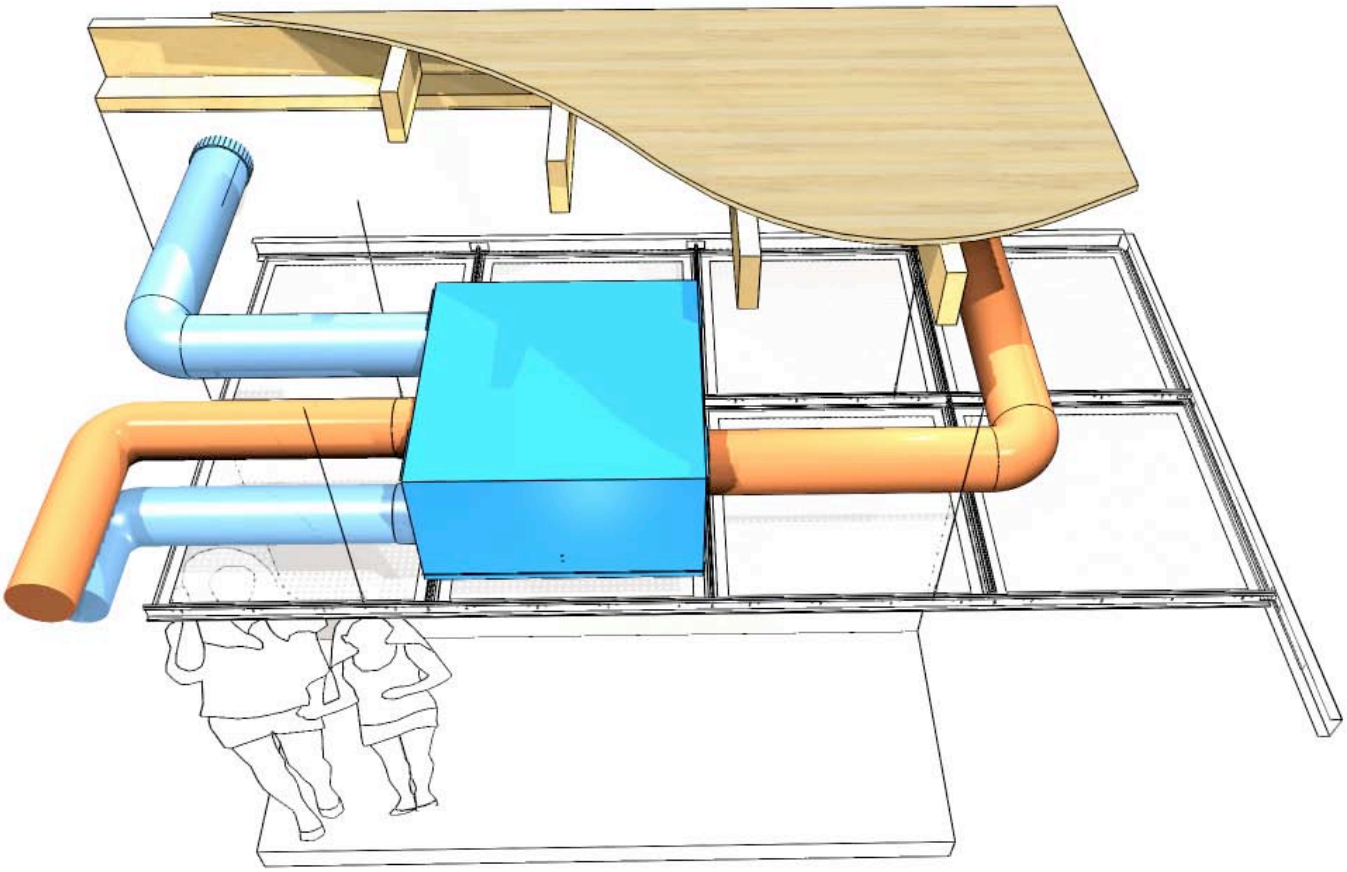
Position the RecoupAerator in a location convenient to existing ducting. If possible, locate equipment away from the quiet rooms (e.g., bedrooms). Avoid directly suspending the RecoupAerator from the mid-span area of joists. This can result in structural vibration. Allow adequate space for maintenance and service of the RecoupAerator.

Vertical/Wall

Top and Bottom Exhaust shown



Horizontal Ceiling



Ducting to Outside

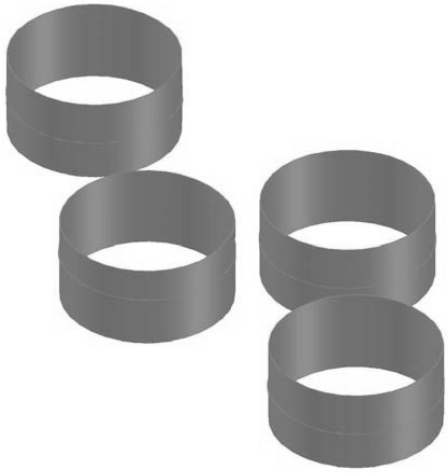
Note: The ducts to the outside must be insulated. The collars labeled "*to Outside*" must be ducted through the exterior of the building, and the following precautions should be taken.

1. The ends of the two ducts should be as far apart as practical (at least six feet, either horizontally or vertically) to minimize re-circulation of the exhaust air.
2. Terminate the ducts using exterior weather hoods. Ensure that the exterior weather caps have wire mesh to keep out birds and debris. Angle the weather caps down and away from each other and place them away from exhaust vents for other appliances such as dryers or hot water heaters. Avoid placing air intake vents near exhaust vents from adjacent buildings or sources of automobile exhaust. Never place an air intake in a garage, for instance.
3. Make sure that the joints between the termination vents and the walls are weather sealed.

Connecting Duct Work

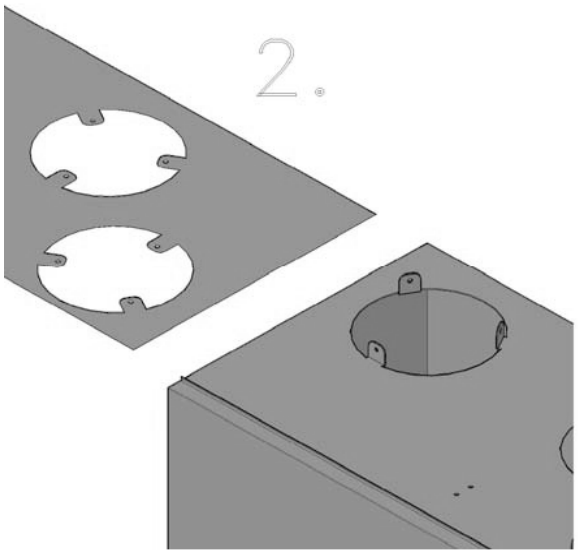
Ducting between the RecoupAerator and the outdoors must be insulated and sealed with a vapor barrier to prevent condensation.

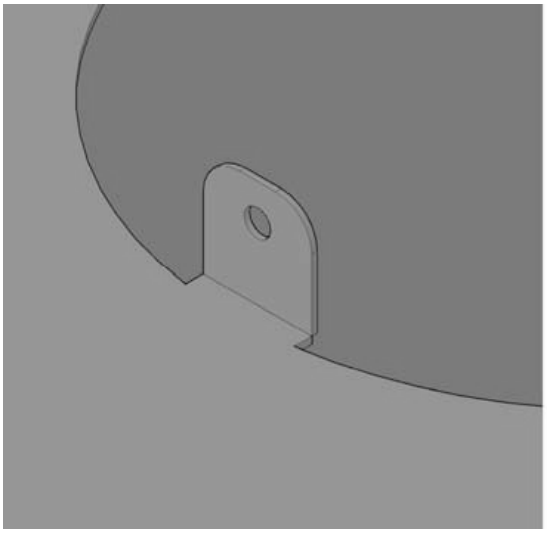
Duct Collars are packaged inside the machine.
(5” diameter)



Unpack collars (4) from inside of unit by opening the two latches.
Remove the door and interior foam panel to access the collars.

Bend tabs up (x12) as shown below using flat nosed pliers.





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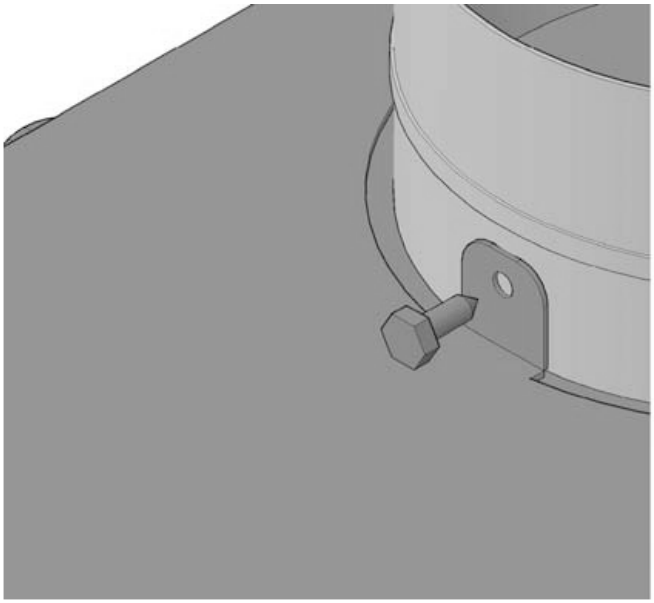
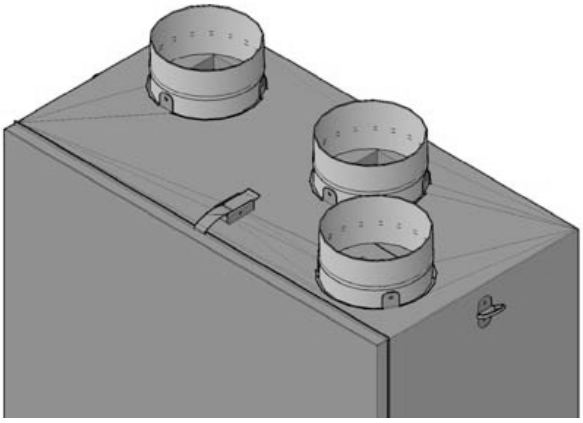
Center Collar inside bent up tabs and fasten using supplied tek screws.





Apply Mastic tape/putty/paint so it spans & seals the collar to the white foam AND blue steel case.

General Ducting Guidelines

To ensure maximum airflow, use the largest practical duct for the installation. Design and installation of ductwork must be in accordance with HVAC standards and regulations to allow required quantities of fresh air to circulate through the building. Insulated flex ducts tend to reduce air noise levels but add airflow resistance, and galvanized ducts provide the least resistance to airflow, but may amplify noise. Duct connections inside each building will vary. The outside duct connections are the same for most installations and must be insulated.

The duct installation should follow the following standards:

A. **Mechanical integrity** The system will remain as built for the life of the building, without developing leaks, obstructions, or insulation failures.
B. **Freedom from leaks** All air moved by the air handler will be drawn from and delivered to the intended conditioned spaces.
C. **Proper insulation** Conditioned air should Not exchange heat with Unconditioned spaces.

A licensed HVAC contractor should do the duct design calculations. To minimize backpressure: Make the intake and exhaust duct runs as short and straight as possible. Use 45-degree elbows instead of 90-degree where practical. Where flex duct is used, make sure that no "crimping" or "collapsing" of the duct occurs. Stretch flex duct evenly to avoid air restriction. Use "Y" connections instead of "T" connections wherever possible. Size ductwork according to recognized industry standards such as Manuals D and J, published by the Air Conditioning Contractors of America (ACCA).

General Ducting Guidelines ...

- Use the minimum length of flexible duct possible
- Minimize any noise transmission through the ducts by using a short run (2-3 ft) of insulated flex duct on duct trunks coming from the unit and going to the inside of the house.
- Position outdoor fresh air intakes away from known sources of pollution. A six-foot separation is the recommended distance between the Fresh air intake and stale air exhaust. Locate Intake and Exhaust 40 inches from the corner of the building, and above the projected snow plane.
- Position inside grill/register vents so that fresh air does not blow directly onto occupants or the thermostat.
- Fasten joints between duct components with screws, sealant, and/or rivets and wrap them with metal foil duct tape to ensure no leaks.

Making a Noisy Duct System Quiet

A. Run at the lowest flow setting necessary for fresh air requirements.

B. When installing the unit, allow for a three-foot section of insulated flexible duct to go from the starting collar on the unit to the rest of the ductwork (on all four collars).

C. Locate the unit farther away from the source of the noise pollution area (if the unit is close to a living room vent where the noise is too loud) This will allow the noise to dissipate in the longer duct length.

Tools to install non-metallic flexible duct:

Knife or Scissors/Wire Cutter: Use knife or scissors to cut duct wall. Use wire cutters to cut the spiral wire helix.

Foil Tape: Use only tapes that have been listed and labeled to Standard UL 181B and labeled “181B-FX”. Use two wraps of 1½” minimum width.

Making a Noisy Duct System Quiet…

Draw Band/Plastic Clamp/Clamp Tool: Use for low-pressure systems up to four-inch wg (diameters of three to 10') and up to two-inch wg (diameters of 12" and over). To achieve proper tensioning of clamp, set clamp to max tension setting.

- Support hardware (e.g., couplings, and fittings) independently of flexible duct using elbows or other devices.
- Repair damaged vapor barrier jacket. If internal core is penetrated, replace or splice flexible duct.
- Install duct fully extended along straightest path possible.
- Flexible duct shall be supported at manufacturer's recommended intervals, but at no greater distance than five feet, and the maximum permissible sag is ½" per foot of spacing between supports.
- In no case will the hanger or saddle material supporting the flexible duct be less than 1½" wide.

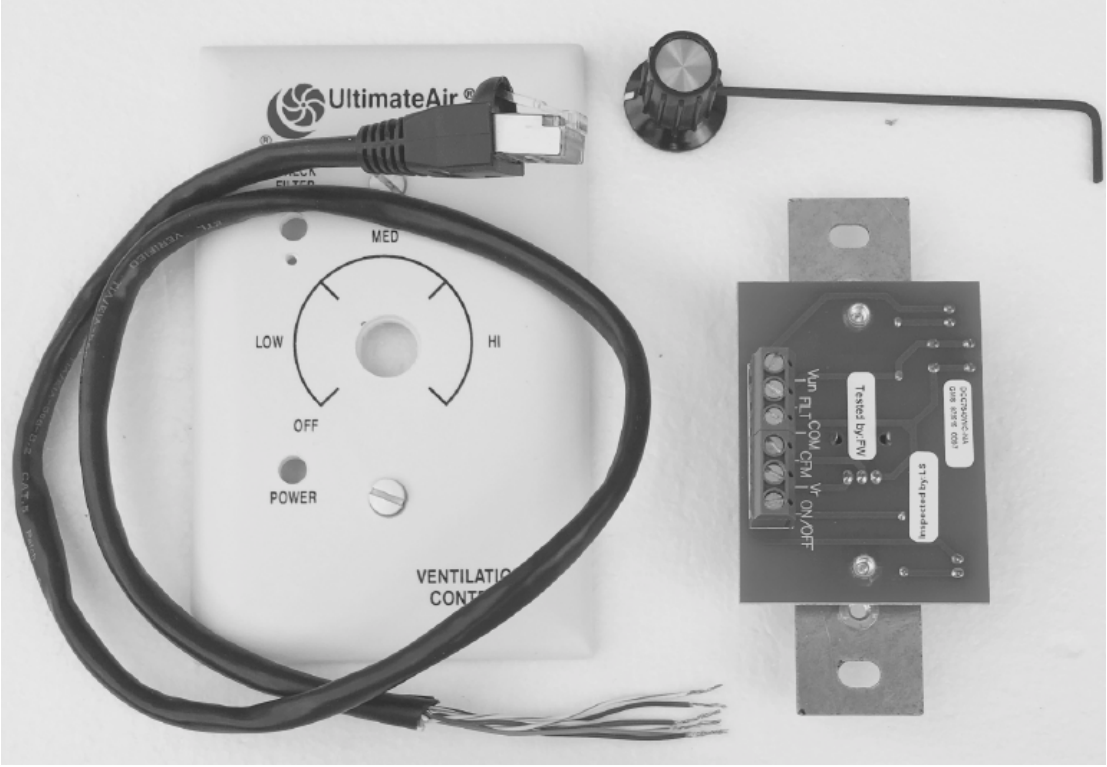
Wiring and Controls

CAUTION

Before performing any service, switch off the unit and disconnect power. You must disconnect power by either unplugging the unit or by switching the applicable breaker in your breaker box to off. Otherwise, the main power to the unit will remain hot and could cause serious bodily harm.

Wall Dial Flow Control –Included

The wall mountable Flow Dial Control may be located in any location by extending the Ethernet style cord attached at the back of the dial. Please use an appropriate 6-conductor 20/22 gauge wire.
Follow all applicable electrical codes.



Before relocating the Flow Dial, connect the Dial to the unit to test run for proper operation.

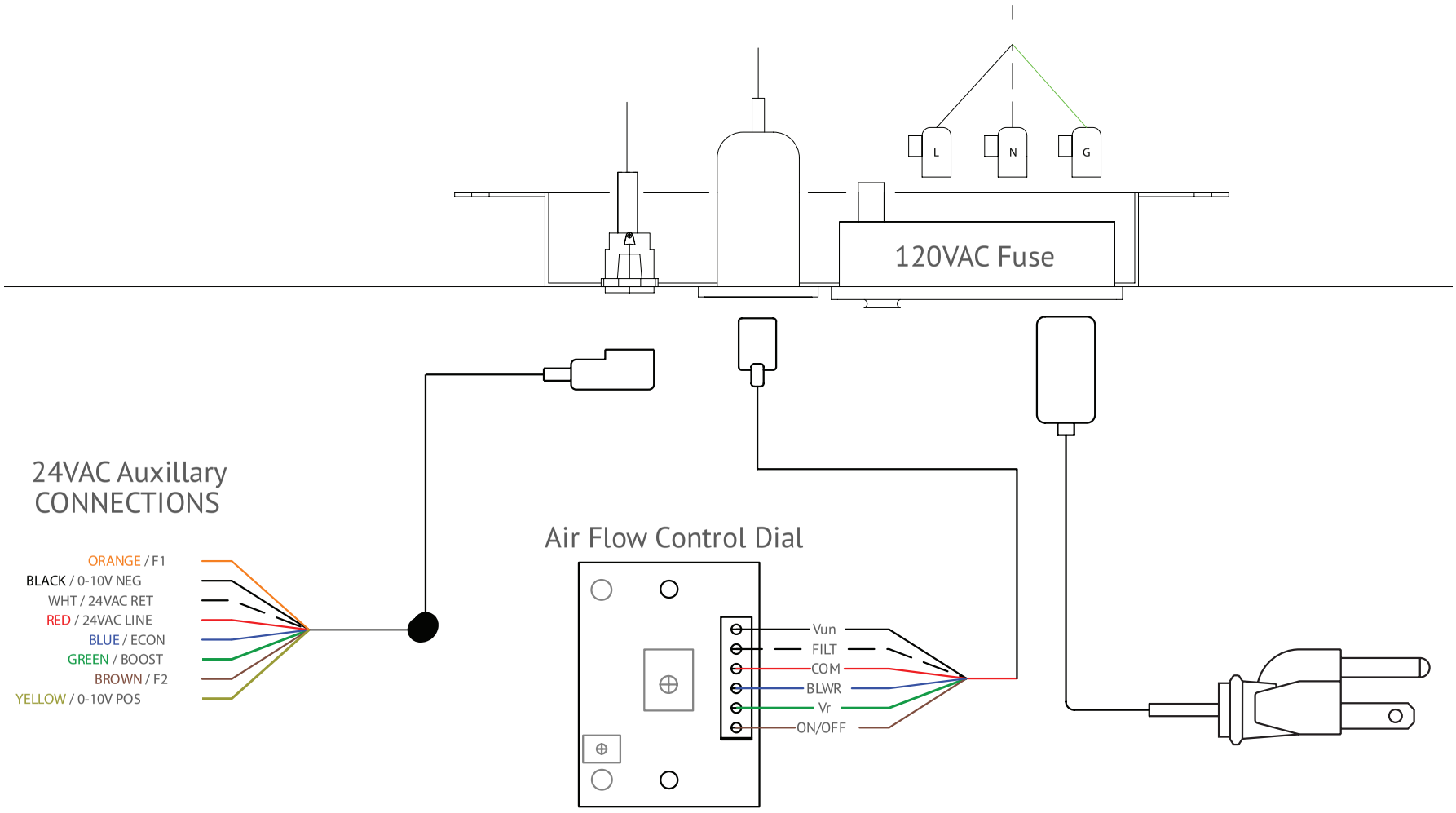
Factory Default Settings

The Model ER80M may be wired to run in a number of different ways. This section of the manual describes each benefit option and shows the wiring procedure to accomplish them

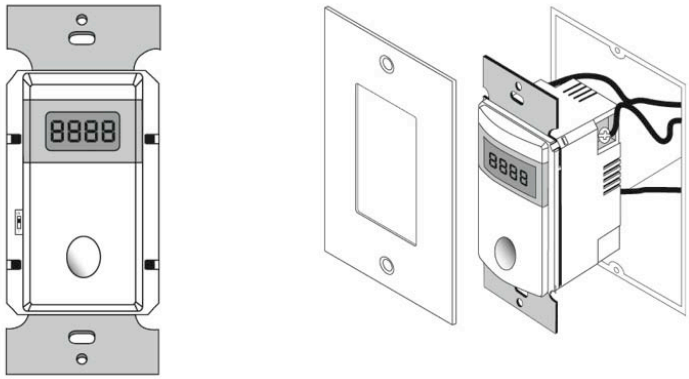
Airflow. This unit contains two blower motors, each independently controlling the airflow coming into the building (Blower 1, supply), and leaving the building (Blower 2, exhaust). The unit has the capability of lowering the airflow from the building going to the outside by a selectable set of offset jumpers on the three-motor control board. Factory settings provide for equal airflow both coming into the building and exiting.
Input. The RecoupAerator comes equipped to handle several different types of control input. From the factory, the RecoupAerator is wired with the Flow Dial Control, unless otherwise specified at the time of order.
EconoCool. This unit comes with an economic 'night' flush feature. Please see the 'econocool' section in this manual for further detail.

The **Boost** feature allows for an override of the RecoupAerator's variable speed ability. Boost is useful for running at maximum airflow using a low-voltage signal input such as the optional Boost Timer. Typically, Boost inputs include bathroom timers, CO_2 monitors, and humidity monitors.

Note -All Switch relays must be capable of switching LOW VOLTAGE (24vac). *High Voltage Contacts (110VAC) will often fail used with 24VAC because of the lack of required high voltage arcing to keep them clean and functional.*


L
N
G
120VAC Fuse
24VAC Auxillary
CONNECTIONS
ORANGE / F1
BLACK / 0-10V NEG
WHT / 24VAC RET
RED / 24VAC LINE
BLUE / ECON
GREEN / BOOST
BROWN / F2
YELLOW / 0-10V POS
Air Flow Control Dial
Vun
FILT
COM
BLWR
Vr
ON/OFF

Low Voltage Accessories:



Bath Boost Timer 1.4 VA

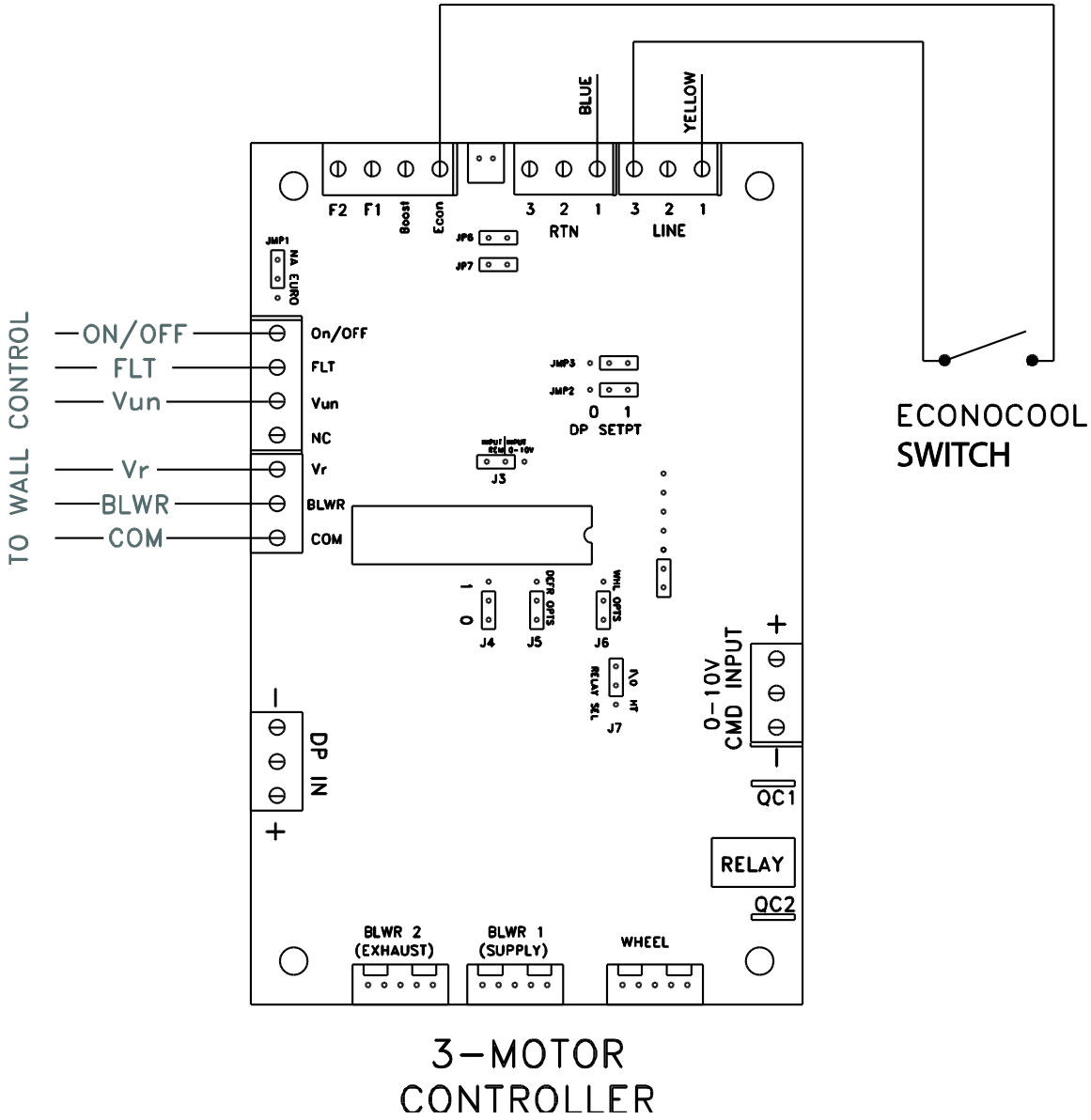
The UltimateAir ER80M is designed with the latest low voltage control technology using a 20 volt-ampere transformer (120Volts AC step-down to 24Volts AC).

Note the Model ER80M uses 4 VA under normal operating conditions, thus leaving 16 VA for optional accessories. When designing your control strategy, keep in mind the maximum 20 VA power limit.

CO2 Sensing Switch 3 VA

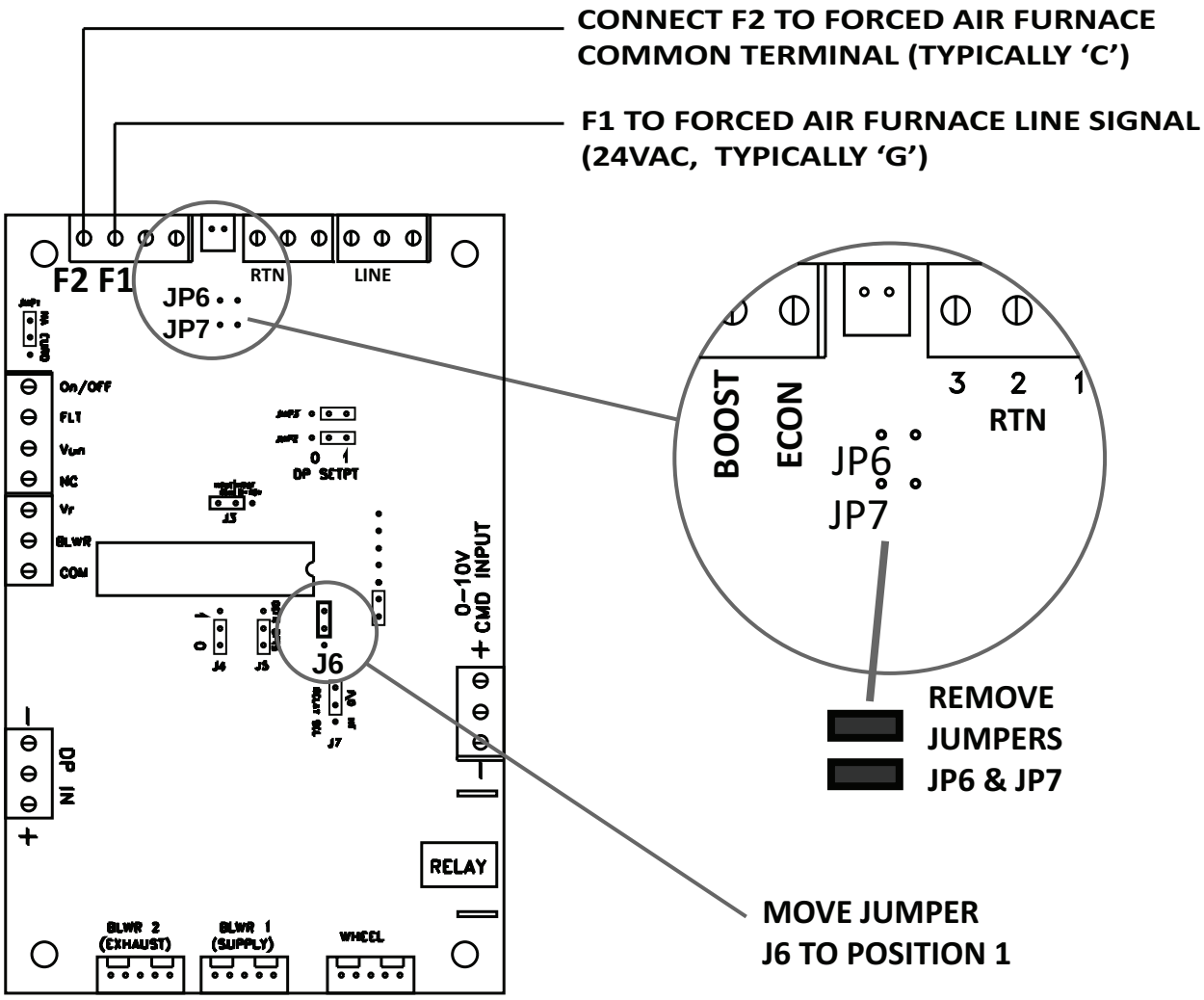
EconoCool™

Each RecoupAerator is EconoCool™ equipped, so the outside air during summer months may be utilized to cool your home or business (e.g., during the night), thereby providing Energy Savings and Comfort. The built-in temperature sensor on the incoming air stream automatically stops energy recovery between 55° and 70° Fahrenheit.



Connecting with a Furnace/ AC Air Handler

For this purpose, never use a device that cycles the main power to the Ventilation Unit. Cycling main power ON/OFF is detrimental to the system electronics and will void the warranty.



3 - MOTOR CONTROL
UltimateAir, Inc.

Connecting with Furnace/ AC Air Handler Continued .....
When integrating the UltimateAir with existing forced air systems, it may need to operate in conjunction with the furnace/AC air handler.

1. On the Furnace, locate the 24 VAC (low voltage) which activates when the Furnace blower is ON. Furnace outputs are generally marked G for "Go/Run" and C for Common; refer to the particular furnace manual for details.
2. **REMOVE jumpers JP6 and JP7**, located just under the furnace F1 & F2 input terminals on the UltimateAir main board.
3. **Move Jumper J6** from its default position ('0') to position '1'. This sets the airflow to full flow 80 CFM. If the airflow range is left at the default settings, the may not be able to overcome the static pressure of the furnace or AC air handler.

4. **Run two wires** (20/22GA) from the furnace to the input leads on the UltimateAir unit labled **F1** (24 VAC Line) and **F2** (24 VAC common). The UltimateAir unit will now run only when the furnace air handler is ON.

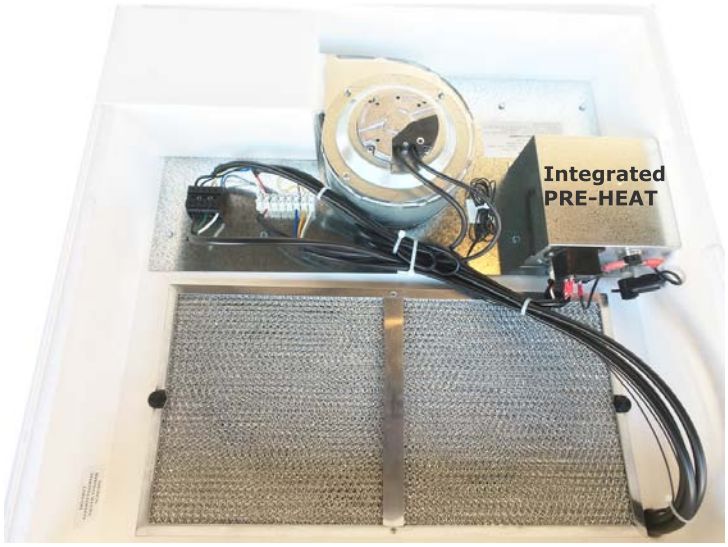
Note- When wired to run with the furnace blower, the ER80M will run only while the Furnace is active.

Wiring to Thermostat or Dry Contact Switches

This control scenario will utilize the UltimateAir internal 24Vac transformer power for ON/OFF function via any external contact switch.

On the UltimateAir 3Motor Main Board, **REMOVE jumper JP6**, located just under the Furnace connections F1 &F2. Run one Wire from the LINE lead to the Dry Contact Device you want to use. Run a second wire back from the Dry Contact Device to the UltimateAir ER80M **F1** lead.

Defrost Pre-Heater (Optional)

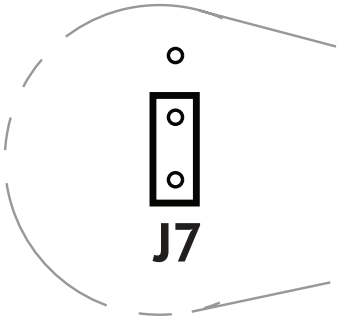


The integrated Pre-Heater is a 350 watt high efficiency option for extended periods of outdoor air temperatures below 12ºF (-11ºC).
The pre-heater is more than a typical duct heater.

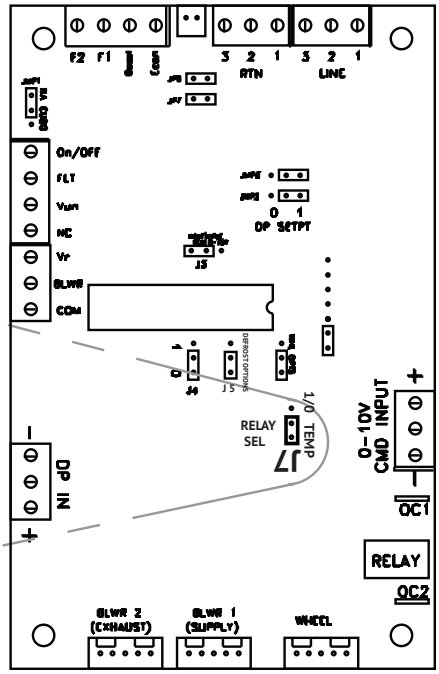
Temperature is modulated using only the minimum electric energy necessary to maintain the incoming air temperature just above 12ºF (the automatic frost-prevention-shut-off temperature of the ERV).

The heater is integrated inside the unit at Duct 1, “Fresh Air In” connected to the outdoors.

With the optional pre- heat installed, jumper **J7** needs to be in the **TEMP** position.



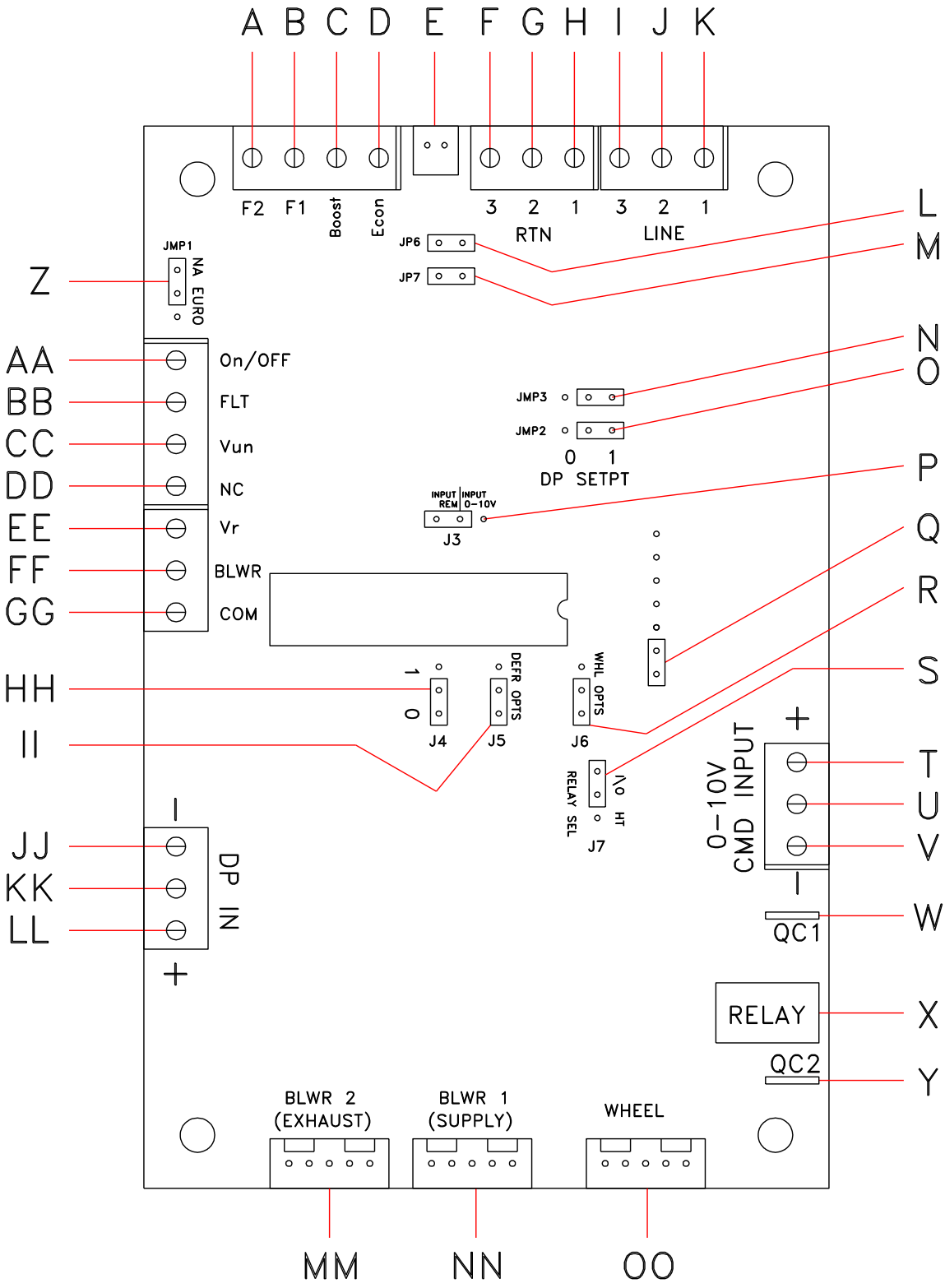
Jumper 7
Must be in TEMP position



3 MOTOR CONTROL Part #4100

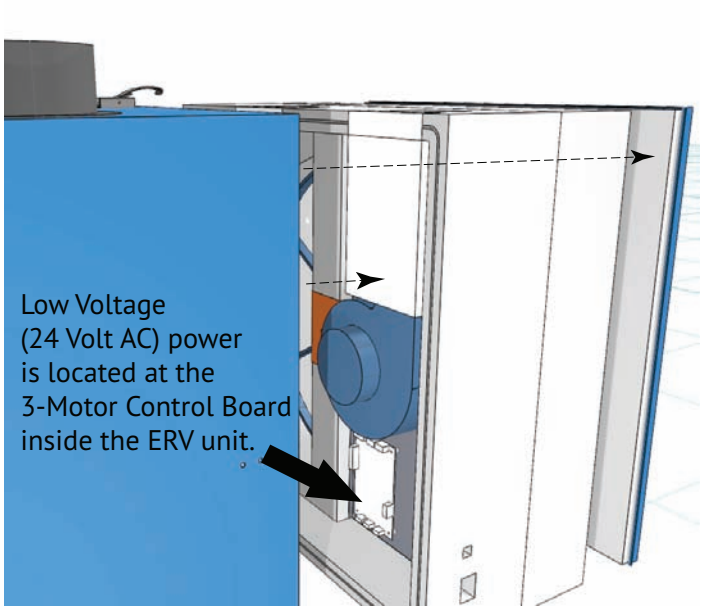
Defrost Pre-Heater Performance

Outside Temp F	ER80M Preheat Energy				
	20	40	70	100	CFM
10.0	0.0	0.0	0.0	0.0	
5.0	31.7	63.3	110.8	158.3	
0.0	63.3	126.6	221.6	316.5	
-5.0	95.0	189.9	332.3		
-10.0	126.6	253.2			
-15.0	158.3	316.5			
-20.0	189.9		watts		
-25.0	221.6				
-30.0	253.2				
-35.0	284.9				
-40.0	316.5				
-45.3	349.8				
Approximate energy to maintain 10 F incoming air for defrost at stated air flow					



3-Motor Main Control Board

3-Motor Main Control Board Description



A. **F2**: Wiring input from furnace. 24 VAC common. In some cases "C" post from thermostat wiring on the furnace. If wiring to furnace, REMOVE Jumpers at L and M (JP6 & JP7).
B. **F1**: Wiring input from furnace. 24 VAC line. In some cases "G" post from thermostat wiring on the furnace. If wiring to furnace, REMOVE jumpers at L and M.
C. **Boost input**: When this post receives a 24 VAC from I, J, or K, the unit will be turned on to high speed (max air flow).
D. **EconoCool input**: When this post receives a 24 VAC signal from I, J, or K, the EconoCool function will be enabled.
E. **Temperature input**: Temperature thermistor located at the incoming air stream (duct 1) connects through this input.
F. RET 3: 24 VAC return post. Common from the internal transformer.
G. RET 2: 24 VAC return post. Common from the internal transformer.
H. RET 1: 24 VAC return post. Common from the internal transformer.
I. LINE 3: 24 VAC line post. Line voltage from the internal transformer.
J. LINE 2: 24 VAC line post. Line voltage from the internal transformer.
K. LINE 1: 24 VAC line post. Line voltage from the internal transformer.
L. **JP6**: Jumper connects 24 VAC Line from internal transformer to F1.
M. **JP7**: Jumper connects24 VAC return from internal transformer to F2.
N. **JMP3**: Offset / DP Set point jumper. See Air Flow Offsets
O. **JMP2**: Offset / DP Set point jumper. See Air Flow Offsets
P. J3: When J3 is in the 0-10V position, JMP1 MUST be in the EU position. J3 Selects control input from either the Wall Dial Control, or a 0-10V DC input voltage (at T and V).
Q. **Programming jumper**. Must be in place for to run RecoupAerator.
R. **J6**: w/ furnace tie to set minimum airflow to 70CFM in 1posistion

S. **J7**: Relay selection. Jumper selects whether the normally open relay (X) closes when the unit turns on (position I/O), or when the temperature thermistor reads below 10ºF (position HT). Default is position I/O.

T. **0-10V DC input**: When J3(P) is in the 0-10V position, a positive line voltage 0-10V DC may be used to control the RecoupAerator operation. When J3 is in 0-10V position, JMP1 MUST be in EU position for the 0-10V input to work.

U. Not connected. Empty socket.

V. **0-10V DC input:** When J3 is in the 0-10V position, this post connects to the negative side of the 0-10V DC control.

W. **QC1**: Quick Connect 1. Used as an auxiliary output control option. QC1 will be electrically connected to QC2 when the relay (X) is closed. Max rating: 1A@24VAC.

X. **Low voltage pilot duty relay**. Normally open. Closes according to selection made at J7 (S). Default: closes when the ERV is turned on.

Y. **QC2**: Quick Connect 2. Used as an auxiliary output control option. QC2 will be electrically connected to QC1 when the relay (X) is closed. Max rating: 1A@24VAC.

Z. **JMP1**: Remote control input selection. Default wall controller in the North American remote wall control (NA position). J3 (P) must be in REM INPUT position. When J3 is in 0-10V position JMP1 MUST be in EU position for the 0-10V input to work.

AA. **On/Off** terminal. Wiring to mating terminal on NA wall controller.

BB. **FLT** terminal. Wiring to mating terminal on NA wall controller.

CC. **Vun** terminal. For wiring to mating terminal on NA wall controller.

DD. **NC** terminal. *Do not wire to this Empty terminal*.

EE. **Vr** terminal. For wiring to mating terminal on NA wall controller.

FF. **BLWR** terminal. For wiring to mating terminal on NA wall controller.

GG. **COM** terminal. For wiring to mating terminal on NA wall controller.

HH. **J4**: Blower control jumper. Default is '0' position for CFM control.

II. **J5:** DEFR OPTS: Defrost Jumper. Default position is '0' The heat wheel slows between 18ºF - 8ºF to prevent frost accumulation then stops when outside temperature is below 8ºF. The '1' position will simply turn OFF the machine below 8ºF. Position '1' is intended for use with a fresh air pre-heater.

JJ. **DP IN**: Delta Pressure Control input, negative (-). Not functional without Pressure Control Transmitter option. Recoupaerator has air flow offset capabilities, see airflow Offsets in this manual

KK. Not connected. Empty socket.

DP IN: Delta Pressure Control input, positive(+0) side. Not functional without Pressure Control Transmitter option. Recoupaerator has airflow offset capabilities.

Service & Maintenance: ER80M ERV

Tech Videos www.youtube.com/user/RecoupAerator/videos

CAUTION

Before performing any service to RecoupAerator, disconnect power to the unit. You must disconnect power by either unplugging the unit or by switching the applicable breaker in your breaker box to OFF. Otherwise, the main power to the unit will remain hot and could cause serious bodily injury.

Maintenance Check List

√ Check pre-filters and energy transfer/filtration material every six months or when the *Check Filter* light comes on. Which ever comes first.

√ Clean or replace the filtration material at least once per year.

√ Clean pre-filters every 3 to 4 months if continuously operated.

√ Check exterior weather caps regularly.

√ Lightly vacuum or dust the cabinet interior annually.

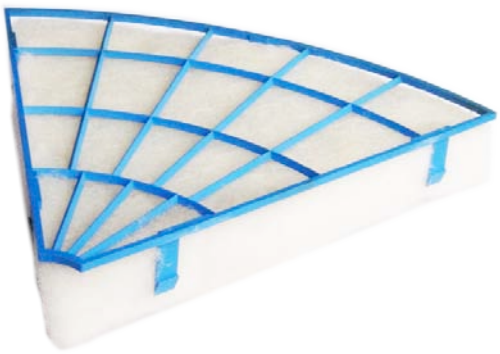
Reset the light thru the small hole in the faceplate just below the light. A small object such as the included Allen Wrench inserted in the hole of the faceplate and held for 2 seconds will turn OFF the light.

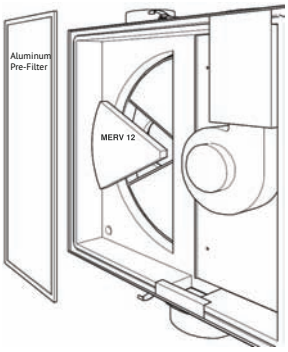
The Check Filter light comes on every 90 days of continuous operation. Because of differences in indoor and outdoor environments, the filters may or may not need cleaning every 90 days. The light is only a reminder to check the filtration material.

Energy Transfer/Filtration Material (Filter Wheel Pies)

To order replacement filtration material, visit us online at:
www.ultimateair.com or call 740.594.2277

The UltimateAir patented heat energy wheel contains six reusable & washable filter pie wedges. This material should be replaced when the fibers become loose or overly frayed. The material transfers heat and moisture from one air stream to the other with up to 99% heat/energy recovery & is a MERV 12 filter.

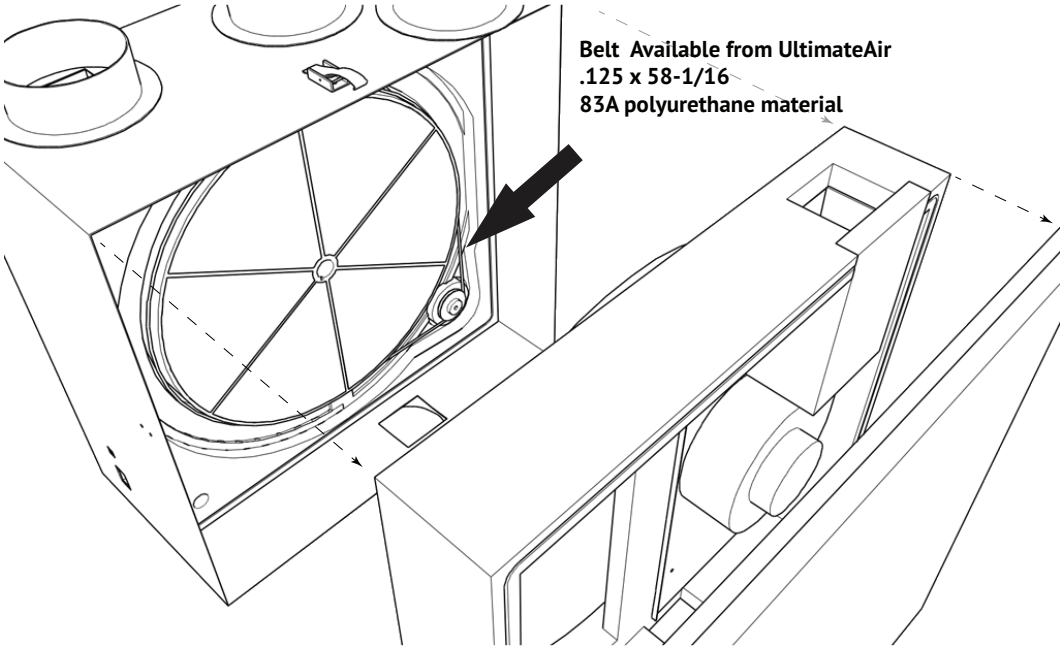




1. **Disconnect Power**
2. **Open the Service cover** by releasing the two Latches
3. **Remove the aluminum pre-filter** Clean the aluminum pre-filter at least once every six months. Clean more frequently if necessary.
4. **Inspect Filters** Wash or replace if the energy transfer/filtration material appears dark and has dirt build-up.
5. **Pull out the filter wedges** along with their attached snap mesh cover. Manually rotate the wheel to access the remaining wedges.
6. **Rotate the wheel by hand**, making sure the covers are completely snapped into position, and the filters do not drag as the wheel rotates.
7. **Replace the aluminum pre-filter** and service cover

Belt Service

1. **Disconnect Power**
2. **Open the Service Cover** by releasing the two Clasp Latches
3. **Disconnect the Wiring** Inside at the Quick Disconnect Terminal
4. **Pull the Insulating Foam** with Blower Mounted as one piece from the Case to gain access to the belt around the wheel and pulley.



Exterior Weather Hoods

Check the vent hoods mounted on the outside of the building periodically. Be sure the vent hoods are not clogged with debris such as leaves, grass, snow, or nests. Remove any debris by hand & wipe out the hoods with a dry cloth.

For more information, Pleas see our Exterior Weather Hood document online at UltimateAir.com

Troubleshooting ER80M ERV

(Tech Support 740.594.2277)

Problem	Possible Cause	Recommended Solution
Green Light on Wall Dial Control does not come on	Power switch on machine is Off...	Check that Main 120VAC switch
	Accessories connected to the unit are not powered or wired correctly	Use a jump wire from LINE 24V on the Main Board to the boost BST terminal on the same board to see if machine runs at full flow. The problem may be in the Wall Dial if Boost works correctly.
	Check fuse where power cord connects...	Check and replace the main fuse
	At least 100 VAC may not be reaching the machine	Verify all connections and replace any loose wiring
	Jumpers on three-motor controller may not be in the correct position	Make sure that NA/EURO jumper is in the correct position on main board
	Wires from the Main Control Board to the FLow Dial may be crossed, Notice order of wire labels.	
Green Light on Wall Dial Flashing	The Machine shuts off automatically at below 10° F to protect from frost forming on the filtration/Heat Exchange Material	Wait for outside temperatures to rise above 10° F or Purchase an efficient UltimateAir pre-heater for operation below 10° F (-12C) -Temperature Probe Problem

Problem	Possible Cause	Recommended Solution
Excess humidity	Blower speed set too low (during heating season) RecoupAerator not operating continuously (during winter) Moisture-producing source (e.g., indoor pool, hot tub, or unvented crawl space)	Set speed higher at wall controller Operate UltimateAir ERV continuously Consider additional exhaust fans in moisture-producing areas (e.g., bathrooms and kitchens)
What's that sound?	Small noises in the system	Insulated Flexible duct connected to the machine for 3 feet will minimize noise transmission through hard duct
	Obstructions in pre-filters and ducts	Clear airways of any and all obstructions, including termination vents and pre-filters
	Heat recovery wheel rubbing	Make sure pies are flush with heat recovery wheel edge and not rubbing
Poor air flow	Leaves or similar may be obstructing vents Restrictions in ductwork Dirty filtration material	Remove obstructions from any and all airways Remove any duct obstructions, excessive bends, and improperly Contact your HVAC service professional to fix ducting
	Ductwork too long, to many bends/elbows	
	Wall controller is not at the right setting	Adjust wall controller setting
Cold air	Un-insulated duct in unconditioned air space	Insulate all duct work in unconditioned air spaces
	Heat recovery wheel not rotating or one of the two blowers is not running	Check for broken or slipping wheel drive belt

Warranty & Installation Record

Date of Purchase:			Model #:	ER80M
Date of Install:			Serial #:	
Contractor Info				
Company			Contact Person	
Address				
City, State Zip			Phone	
Notes				

General Warranty Information

Be sure to promptly return your warranty registration or online @ http://www.ultimateair.com/warranty-reg

Your RecoupAerator is guaranteed to be free from defects in materials or workmanship for Two (2) years from the date of purchase. See Warranty card included in original packaging for complete warranty information. If you have questions concerning your warranty email us: info@ultimateair.com