IMPORTANT INSTRUCTIONS - OPERATING MANUAL

QF130V | Envirowise™ INDOOR AIR SYSTEMS | **Supply Inline Fan**

READ AND SAVE THESE INSTRUCTIONS

READ CAREFULLY BEFORE ATTEMPTING TO ASSEMBLE, INSTALL, OPERATE OR MAINTAIN THE PRODUCT DESCRIBED. PROTECT YOURSELF AND OTHERS BY OBSERVING ALL SAFETY INFORMATION. FAILURE TO COMPLY WITH INSTRUCTIONS COULD RESULT IN PERSONAL INJURY AND/OR PROPERTY DAMAGE!

RETAIN INSTRUCTIONS FOR FUTURE REFERENCE.

GENERAL SAFETY INFORMATION

When using electrical appliances, basic precautions should always be followed to reduce the risk of fire, electric shock and injury to person, including the following:

WARNING: TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK AND INJURY TO PERSON, OBSERVE THE FOLLOWING:

a) Use this unit only in the manner intended by the manufacturer. If you have questions, contact the manufacturer.

b) Before servicing or cleaning the unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switched on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel.

WARNING: TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK AND INJURY TO PERSON, OBSERVE THE FOLLOWING:

a) Installation work and electrical wiring must be done by qualified person(s) in accordance with all applicable codes and standards, including fire-related construction.

b) Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment to prevent back drafting. Follow the heating equipment manufacturer's guideline and safety standards such as those published by the National Fire Protection Association (NFPA) and the American Society for Heating, Refrigeration, and Air Conditioning Engineers (ASHRAE), and the local code authorities.

c) When cutting or drilling into wall or ceiling, do not damage electrical wiring and other hidden utilities.

CAUTION: FOR GENERAL VENTILATING USE ONLY. DO NOT USE TO EXHAUST HAZARDOUS OR EXPLOSIVE MATERIALS AND VAPORS.

d) This unit must be grounded.

e) To avoid motor bearing damage and noisy and/or unbalanced impellers, keep drywall spray, construction dust, etc. off power unit.

f) Read all instructions before installing or using exhaust fan.

g) For residential installations only.

h) Must use suitable weather hood with insect screen to protect air intake.

WARNING: TO REDUCE THE RISK OF FIRE, ELECTRIC SHOCK, DO NOT USE THIS FAN WITH ANY SOLID-STATE SPEED CONTROL DEVICE.

a) Must be connected to a GFCI (ground fault circuit interrupter) protected branch circuit.

WARNING: DO NOT USE IN KITCHENS.

WARNING: THE DUCTING FROM THIS FAN HAS A STRONG EFFECT ON THE AIR FLOW, NOISE AND ENERGY USE OF THE FAN. USE THE SHORTEST, STRAIGHTEST DUCT ROUTING POSSIBLE FOR BEST PERFORMANCE, AND AVOID INSTALLING THE FAN WITH SMALLER DUCTS THAN RECOMMENDED. INSULATION AROUND THE DUCTS CAN REDUCE ENERGY LOSS AND INHIBIT MOLD GROWTH.

Installing Contractor:_____

Installation Date:_____

Model Number: QF130V

SAVE THESE INSTRUCTIONS

INSTALLATION INSTRUCTIONS

CAUTION: MAKE SURE POWER IS SWITCHED OFF AT SERVICE PANEL BEFORE STARTING INSTALLATION.

SECTION 1
Preparing the Fan

1. Unpack fan from the carton and confirm that all pieces are present. In addition to the fan you should have:
   - 2 - Collar Assembly (attached)
   - 2 - Mounting Brackets (attached)
   - 1 - Controller (attached)
   - 1 - 24 volt relay box (Included with unit shipped loose in box)
   - 1 - Instruction/Safety Sheet
2. Choose the location for your fan. To ensure the best air and sound performance, it is recommended that the length of ducting and the number of elbows be kept to a minimum, the radius of each elbow be as large as possible for the installation, and that insulated hard ducting be used. This fan will require at least 12" of clearance in the ceiling or wall. The fan mounts using the provided mounting brackets or can be surface mounted to a wall or ceiling.

NOTE: The fan must be installed into a location that can be easily accessed once installed.

3. There are typically three installation options for the unit:

   Intake to Central Grill: The unit is mounted into the attic space and the airflow is directed through ducting to a central location of the home **(Figure 1)**.

   Intake into HVAC System: The unit is mounted next to the HVAC system with the airflow directed into the return of the HVAC system **(Figure 2)**.

   Direct Intake: The unit is mounted in a mechanical room, laundry room or other less occupied area and the airflow comes directly into the space without the need for extra ducting or tying into the HVAC **(Figure 3)**.

4. No additional vibration deadening materials are needed for this fan.

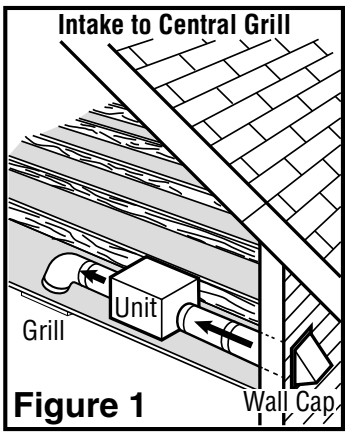

Figure 1

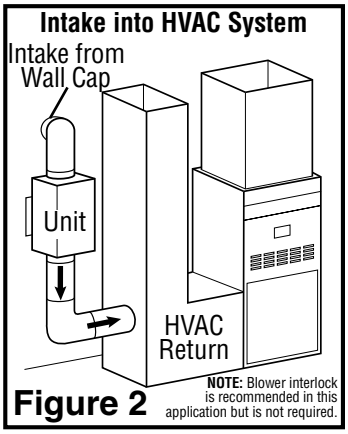

Figure 2

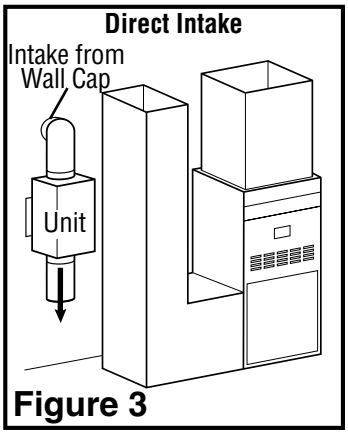

Figure 3

SECTION 2
Mounting the Fan

1. Confirm the fan is positioned so the air flow is in the correct direction.

2a. **Surface Mounting:** Locate at least one stud or joist. Place the fan in position so that the mounting bracket is centered on the stud or joist and make the location for the four (4) holes. Remove the fan and install properly rated wall/ceiling anchors for the holes that do not go directly into a joist or stud. Position fan in place and secure with screws (not included) **(Figure 4).**

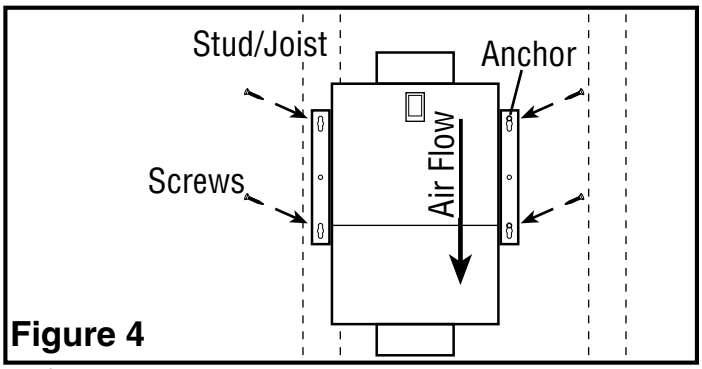

Figure 4

2b. **Mounting to a Joist:** Install two - 2 x 4 headers (not included) between the joists. Position the fan housing on top of the headers and secure the mounting brackets with screws (not included) to the header **(Figure 5)**.

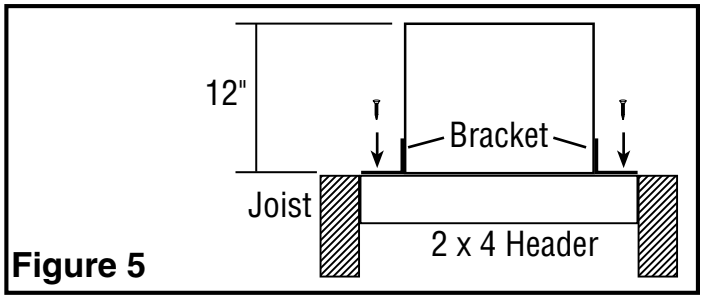

Figure 5

2c. **Hanging Bar Mounting:** Lift unit up onto the threaded rods and secure in place using appropriate hardware (not included) **(Figure 6).**

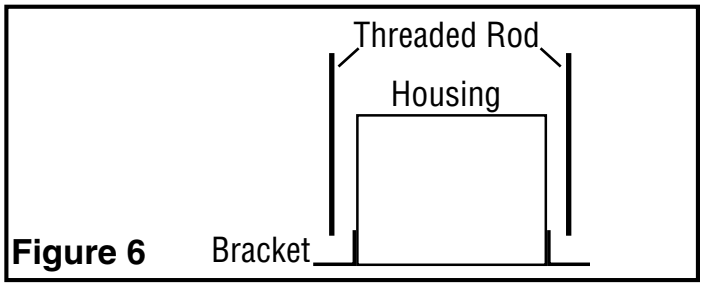

Figure 6

SECTION 3
Ducting

NOTE: 6" OR LARGER RIGID DUCT OR 8" FLEX DUCTING IS RECOMMENDED FOR BEST PERFORMANCE. DO NOT RUN MORE THAN 100 FEET OF TOTAL DUCTING (INCLUDES SUPPLY AND RETURN). 8" FLEX DUCT @ 130CFM HAS ESP OF .06 FOR 100 LINEAR FEET OF TOTAL DUCT. PRESSURE DROP FOR FILTER, INTAKE HOOD AND OUTLET GRILL MUST BE ADDED TO GET TO TOTAL SYSTEM PRESSURE DROP.

CAUTION: ALL DUCTING MUST COMPLY WITH LOCAL AND NATIONAL BUILDING CODES.

NOTE: The ducting from this fan to the outside of the building has a strong effect on the air flow, noise and energy use of the fan. Use the shortest, straightest duct routing possible for best performance, and avoid installing the fan with smaller ducts than recommended. Insulation around the ducts is required if QF130V is installed in non-conditioned space and is recommended for all installations to reduce energy loss and inhibit mold growth.

WARNING: MAKE SURE THE FRESH AIR INTAKE PORT COMPLIES WITH ALL LOCAL AND NATIONAL CODES AND IS LOCATED AT LEAST 6 FEET AWAY FROM SOURCES OF CONTAMINATION SUCH AS BUT NOT LIMITED TO: DRYER, FURNACE OR CENTRAL VACUUM EXHAUSTS, GAS APPLIANCES SUCH AS BBQ GRILLS, GARBAGE BINS OR OTHER EXHAUST PORTS.

NOTE: To ensure quiet operation of in-line and remote fans, each fan shall be installed using sound attenuation techniques appropriate for the installation. For general ventilation applications, at least 8 feet of insulated flexible duct shall be installed between the exhaust or supply grille(s) and the fan.

1. Connect the ducting to the fan's duct collar **(Figure 7).** Seal ducting to housing with appropriately rated tape. Use screws or suitable clamps to secure in place. Make sure the fresh air intake is connected to a properly installed intake port that is a suitable weather hood with insect screen to protect air intake. It is recommended that low restriction termination fittings be used.

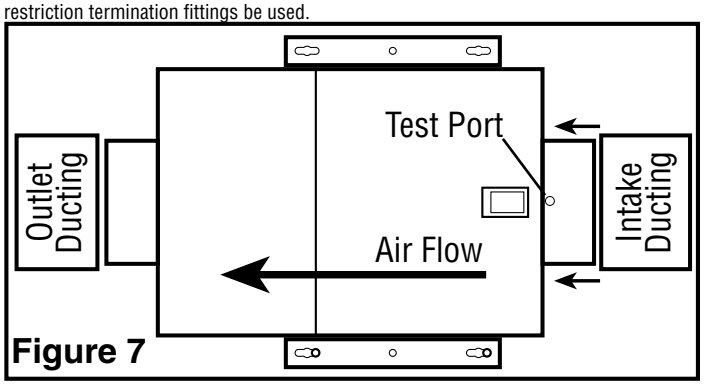

Figure 7

2. Ensure duct joints and exterior penetrations are sealed with caulk or other similar material to create an air-tight path to minimize building heat loss or gain and to reduce the potential for condensation. Place/wrap insulation around duct and/or fan in order to minimize possible condensation buildup within the duct, as well as building heat loss or gain.

NOTE: At the base of the duct adapter, there is a small diameter test port hole covered with a plastic cap. Make sure the test port is not covered up with the ducting so that it can be accessed for pitot tube testing. To access the port, remove the port cover and insert tube.

SECTION 4
Wiring

CAUTION: MAKE SURE POWER IS SWITCHED OFF AT SERVICE PANEL BEFORE STARTING INSTALLATION.

CAUTION: ALL ELECTRICAL CONNECTIONS MUST BE MADE IN ACCORDANCE WITH LOCAL CODES, ORDINANCES, OR NATIONAL ELECTRICAL CODE. IF YOU ARE UNFAMILIAR WITH METHODS OF INSTALLING ELECTRICAL WIRING, SECURE THE SERVICES OF A QUALIFIED ELECTRICIAN.

NOTE: This unit includes a side access panel for wiring that does not require the removal of the fan's blower assembly.

1. Remove the wire compartment cover screw and place cover in a secure place **(Figure 8).**

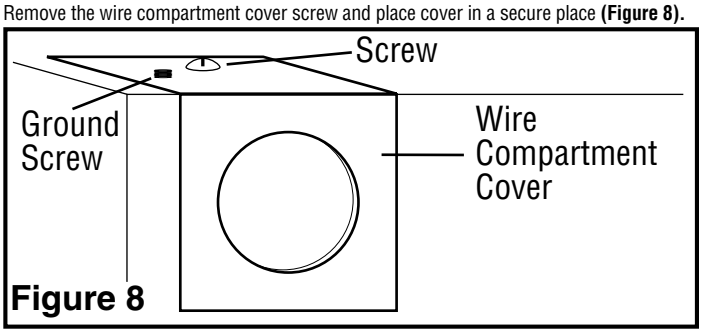

Figure 8

2. Pull the loose black, white and green wires out from the wire compartment (additional wires will be present). Install an approved electrical connector to the wire compartment cover (not included). Run a black (hot), white (neutral), and a green or bare ground wire from the supply through the electrical connector. Connect all wires from the supply to their corresponding wires within the wire compartment **(Figure 9)**. Use approved methods for all connections.

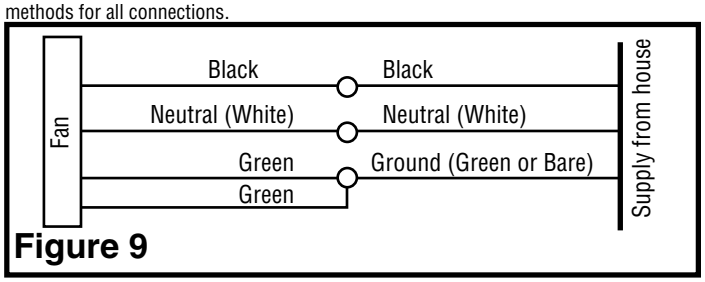

Figure 9

3. Carefully tuck wires back inside wire compartment and replace wire compartment cover securing with the screw that was removed earlier.

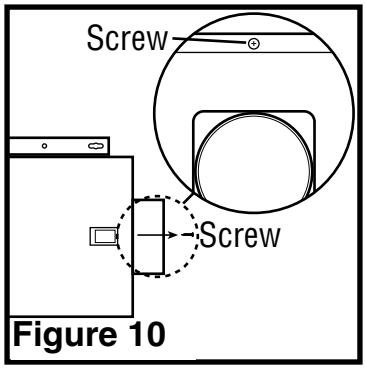

Figure 10

SECTION 5
Setting the Speed

1. Remove the screw securing the access panel cover in place and open the cover to gain access **(Figure 10).**
2. Locate the speed control panel inside the unit **(Figure 11).**
3. Set the dial to the required CFM as determined by Table 4.1a. The unit can be set from 30 CFM to 130 CFM **(Figure 11).**

Table 4.1a (I-P) Ventilation Air Requirements, cfm

	Bedrooms				
Floor Area, ft²	**1**	**2**	**3**	**4**	**5**
<500	30	38	45	53	60
501 - 1000	45	53	60	68	75
1001 - 1500	60	68	75	83	90
1501 - 2000	75	83	90	98	105
2001 - 2500	90	98	105	113	120
2501 - 3000	105	113	120	128	
3001 - 3500	120	128			

Note: When calculating MVR, Minimum Ventilation Rate, State/Local Personnel should always be consulted for Best Practices based on 62.2. There should not be greater than 7.5cfm/100ft².

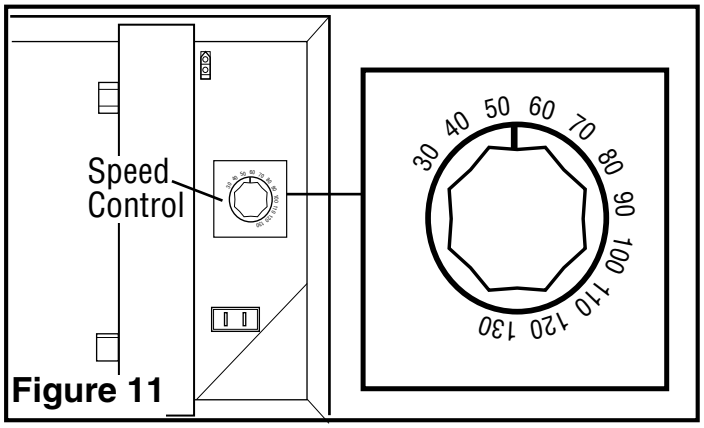

Figure 11

SECTION 6
24V Control Relay

The 24V relay controller allows the until to be controlled from a remote located thermostat with ventilation logic software or a switch. **It is not necessary to install the 24V relay if the QF130V is controlled by the unit mounted programmable controller.**

NOTE: The 24V relay works in conjunction with the unit mounted programmable controller installed on the QF130V and wall mounted thermostats that contain ventilation logic software. For the unit to operate, it must be energized at the controller location connected by the 24V relay and meet the preset criteria programmed into the unit mounted programmable controller. The Internal/External switch must be in the External position or the remote controller will be bypassed.

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CAUTION: ALL ELECTRICAL CONNECTIONS MUST BE MADE IN ACCORDANCE WITH LOCAL CODES, ORDINANCES, OR NATIONAL ELECTRICAL CODE. IF YOU ARE UNFAMILIAR WITH METHODS OF INSTALLING ELECTRICAL WIRING, SECURE THE SERVICES OF A QUALIFIED ELECTRICIAN.

1. Run approved low voltage wiring from the remote located controller/switch to the relay box through the grommet on the side panel of the unit. Connect the wires to the bare blue leads inside the relay box. Secure the low voltage wire to the relay controller box using the cable tie provided. Thread the cable tie through opening in the Cable Tie Holder. Wrap the wire around the cable tie twice and tighten the cable tie.
2. Remove the installed Molex jumper harness from the connector on the top of the wiring compartment.
3. Install the relay control box by sliding the unit into the corner of the housing, remove the jumper wire and connect the Molex on the box to the connector in the housing. This will only fit one way. Secure the box to the housing using the included screws **(Figure 12)**.

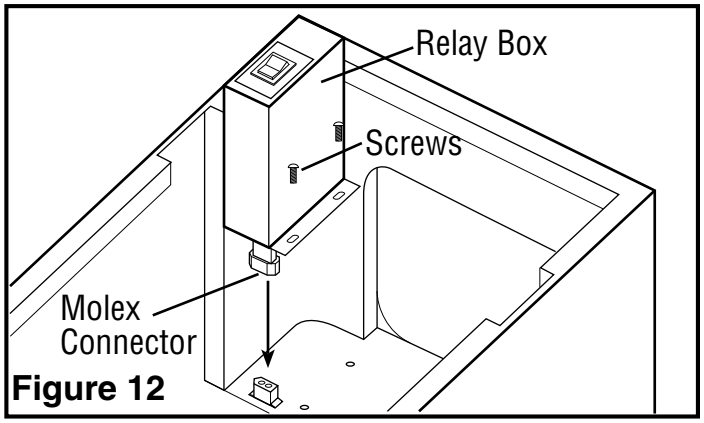


Figure 12

Operation

1. When the toggle switch is in the "Internal" position, the unit will bypass the relay and operate the unit as controlled by the unit mounted programmable controller.

NOTE: Important to double check the toggle position before completing the installation!

2. When the toggle switch is in the "External" position the unit will only energize when the remote located controller is energized, a ventilation call is activated by the remote controller, and all the criteria (humidity, temperature, etc.) of the unit mounted programmable controller are met.

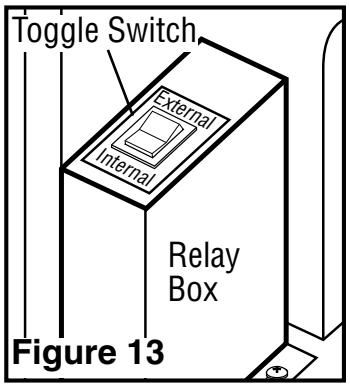
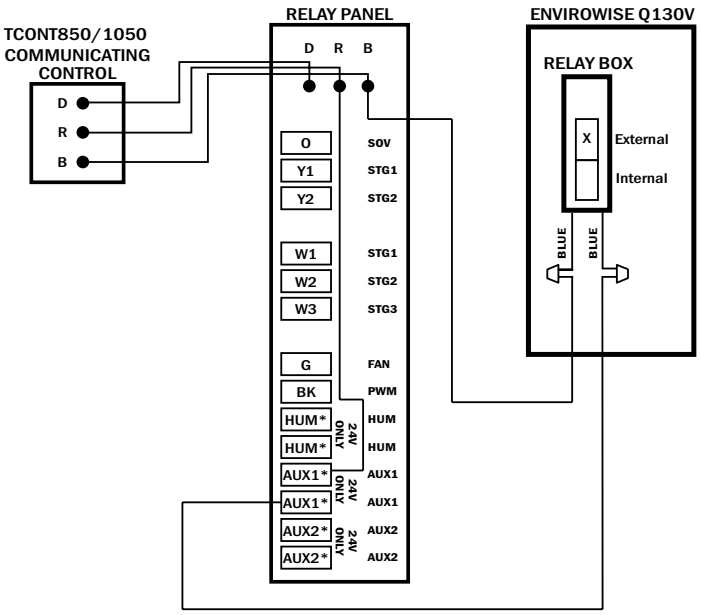


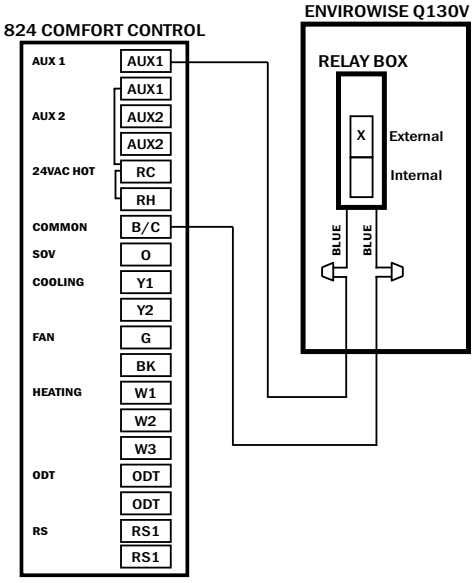
Figure 13

SECTION 7
Connected Control Wiring

Onboard controller information to the unit.



NOTES:
1) Use #18 gauge solid or stranded wire.
2) Connect the wire between "R" and "AUX1" in the relay panel.
3) Connect the wire from the other remaining "AUX1" to the blue lead of the ventilator relay box.
4) Connect the wire from "B" of the relay panel to the other blue lead of the ventilator relay box.
5) See the TCONT850/1050 Installation Guide for instructions on setting up the "AUX1" contacts for ventilation operation.



NOTES:
1) Use #18 gauge solid or stranded wire.
2) Connect the wire between "AUX1" and "RC" in the 824 Control.
3) Connect the wire from the other remaining "AUX1" to the blue lead of the ventilator relay box.
4) Connect the wire from "B/C" of the 824 Controller to the other blue lead of the ventilator relay box.
5) See the TCONT824 Installation Guide for instructions on setting up the "AUX1" contacts for ventilation operation.

SECTION 8
Motorized Damper

An optional motorized damper can be connected to the unit. The damper is connected via a 24V transformer that plugs into the receptacle in the unit **(Figure 14)**.

NOTE: Make sure to reference the instructions included with the motorized damper before installing or operating.

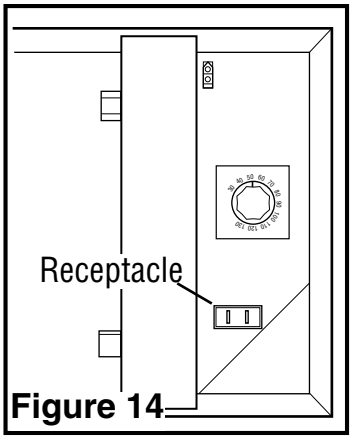


Figure 14

Operation

1. When installed the receptacle will be energized anytime the fan is running. This will in turn open the damper. When the fan stops running, the damper will close.

SECTION 9
Air Filter

An air filter (included separately) can be added to this unit to provide additional filtration of the intake air. The unit will accept a nominal 10" x 10" x 2" filter. To install:

NOTE: Filters must be changed regularly. Refer to the filter manufacturer's recommendations to determine how often the filter should be changed.

1. Remove the screw securing the access panel cover in place and open the cover to gain access to the controls and filter area.
2. Ensure the filter is facing the correct way and slide the filter into the slot in the housing. Make sure the filter is seated all the way to the bottom of the housing **(Figure 15).**

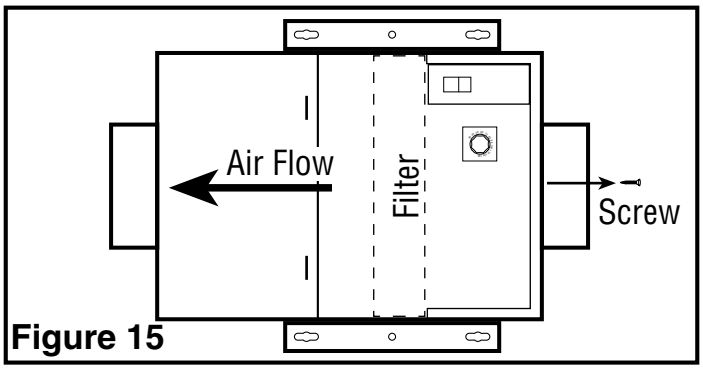


Figure 15

3. Close the access panel and reinstall the screw holding the access panel in place.

SECTION 10
Completing the Installation

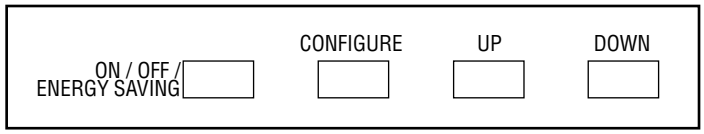
NOTE: Double check the toggle switch position to ensure correct operation according to control application.

NOTE: When fan is mounted inline and no penetration is made into unconditioned spaces, there is no need to use a sealant appropriate for contact with the building materials present and for the temperature requirements of the installation to prevent air leakage from unconditioned spaces. Additional material (backing rod, ceiling material) are also not required.

1. Close the access panel and reinstall the screw holding the access panel in place.
2. Restore power and test your installation.

SECTION 11
Setting the QF Controller

The unit mounted programmable controller monitors temperature and humidity of incoming air and allows the installer to configure optimal ventilation.



With power to the unit turned on, the initial screen will show "OFF". Press the "ON" button to show the current temperature and humidity condition. By pressing the "ON" button, the unit will turn on for continuous air flow using the CFM settings from **SECTION 5** *Setting the Speed*.

ENERGY SAVING MODE

NOTE: This unit is equipped with an Energy Saving Mode that allows you to configure upper and lower limits for temperature and humidity. By setting these limits, you will help prevent extreme temperature or humidity from entering into the living space. When the controller senses extreme conditions it enters "Sampling mode". In Sampling Mode the unit will turn off for 15 minutes, and then run for 5 minutes and check to see if the conditions are favorable for ventilation. If conditions are favorable, the unit will operate continuously, If conditions remain unfavorable the unit will repeat the above cycle until the conditions become favorable and the unit can run continuously.

Controller Setttings	
High Temperature Range	65° - 95 F
Default Setting	90° F
Low Temperature Range	32° - 55 F
Default Setting	40° F
High Relative Humidity Range	55% - 85%
Default Setting	65%
Low Relative Humidity Range	0%*, 10% - 50%
Default Setting	35%
* 0 Low Relative Humidity Range = Disabled	

1. If you have not already pressed the "ON" button in step one of this section, do so now. Press the "CONFIGURE" button once and the display will show a "C" and "Temp Unit" on the right hand side.
2. Press the up or down button to display the temperature in Fahrenheit or Celsius.
3. Press the "CONFIGURE" button again to set the upper limit temperature. This is the temperature that when the outside air coming into the home exceeds, the fan will stop and enter sampling mode. You will see "Upper Limit" and "Temperature" on the right hand side. Use the "UP" and "DOWN" buttons to adjust the temperature.
4. Press the "CONFIGURE" button again to set the upper limit humidity level. This is the humidity level that when the outside air coming into the home exceeds, the fan will stop and enter sampling mode. You will see "Upper Limit" and "Humidity" on the right hand side. Use the "UP" and "DOWN" buttons to adjust the temperature.
5. Press the "CONFIGURE" button again to set the lower temperature level. This is the temperature that when the outside air coming into the home falls below, the fan will stop and enter sampling mode. You will see "Lower Limit" and "Temperature" on the right hand side. Use the "UP" and "DOWN" buttons to adjust the temperature.
6. Press the "CONFIGURE" button again to set the lower limit humidity level. This is the humidity level that when the outside air coming into the home falls below, the fan will stop and enter sampling mode. You will see "Lower Limit" and "Humidity" on the right hand side. Use the "UP" and "DOWN" buttons to adjust the temperature. Setting this to 0 or "LO" will override the humidity set level. This may be necessary in very low humidity areas of the country.
7. Press the "CONFIGURE" button until it returns to the main screen. You will see "ON" in the top left corner of the display. At this point, the information has been stored.

SECTION 12
Using the Controller

1. **Energy Savings Mode:** To enter the Energy Savings mode, press the "ON/OFF/ENERGY SAVINGS" Button until "Energy Savings" appears on the left side of the display. Energy Savings mode engages the settings configured in **SECTION 11** *Energy Saving Mode*.
2. When the unit is on, the display will show the current conditions (temperature and humidity level) as well as if it is in Energy Savings mode or not. Other icons/information that may be on the display include:

   Fan icon appears when the fan is on.

   "HI°F" appears if the intake temperature is above 150°F.

   "Lo°F" appears if the intake temperature is below 15°F.

   "Lo%" appears if the intake humidity is below 10%.
3. **Optional Heater Unit:** An optional heater unit is available for climates that the air coming into the unit falls below 50°F and ventilation is required.
4. To restore the factory setting, make sure the unit is in the "OFF" setting. Hold both the "UP" and "DOWN" buttons for approximately 5 seconds. The "OFF" on the display will flash to confirm the settings have been restored.

SECTION 13
Use and Care

CAUTION: MAKE SURE POWER IS SWITCHED OFF AT SERVICE PANEL BEFORE SERVICING THE UNIT.

1. **Cleaning the Fan Assembly:** Wipe all parts with a dry cloth or gently vacuum the fan. NEVER IMMERSE ELECTRICAL PARTS IN WATER.

NOTE: If you notice a large amount of insects and debris in the insect filter, this could be a sign that the intake weather hood (roof cap or wall cap) might be compromised and need repair or replacing.

2. **Air Filter:** If the air filter is installed, it should be checked every month and **replaced at least once every 3 months**. Reverse the instructions in **SECTION 8** of these instructions to remove filter.

CALIFORNIA RESIDENTS ONLY:

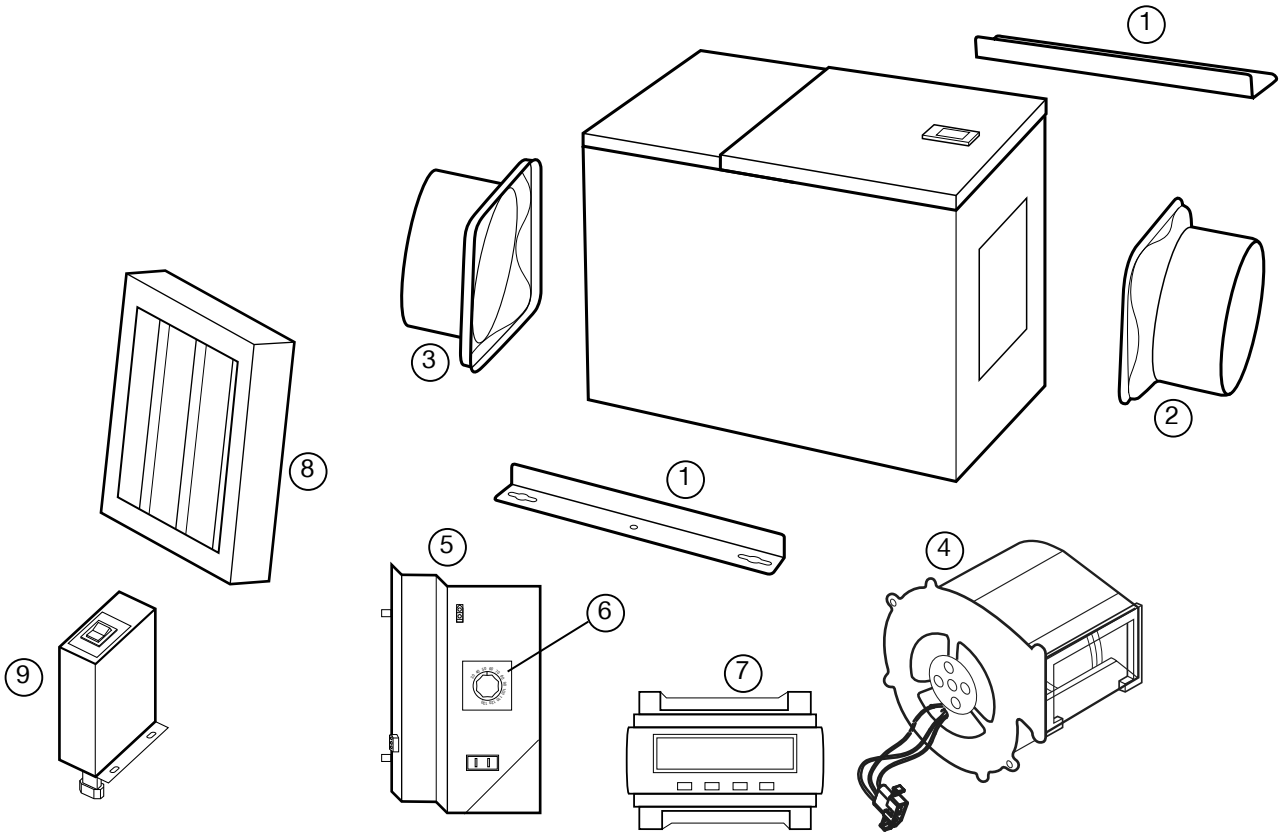
WARNING: THIS PRODUCT CAN EXPOSE YOU TO A CHEMICAL [OR CHEMICALS] KNOWN TO THE STATE OF CALIFORNIA TO CAUSE CANCER.

WARNING: THIS PRODUCT CAN EXPOSE YOU TO A CHEMICAL [OR CHEMICALS] KNOWN TO THE STATE OF CALIFORNIA TO CAUSE REPRODUCTIVE TOXICITY.

Troubleshooting Guide

Trouble	Probable Cause	Suggested Remedy
1. Fan does not operate.	1a. Control setting.	1a. Check temperature and humidity level settings. If the intake air is not within the preset range, the fan will not turn on. Either adjust the settings or wait for the intake air temperature and/or humidity to change.
	1b. A fuse may be blown or a circuit tripped.	1b. Replace fuse or reset circuit breaker.
	1c. Wiring is not connected properly.	1c. Turn off power to unit. Check that all wires are connected.
	1d Motor has stopped operating.	1d. Replace motor.
2. Fan is operating, but air moves slower than normal.	2a. Obstruction in the ducting.	2a. Check for any obstructions in the ducting. The most common are bird nests in the roof cap or wall cap where the fan intakes from the outside.
	2b. Filter is clogged	2b. Change air filter (if equipped).
		2c. Change/clear bug filter.
3. Fan is operating louder than normal	3a. Motor is loose.	3a. Turn off power to unit and check that all screws are fully tightened Restore power to unit.
	3b. Fan blade is hitting housing of unit.	3b. Call your dealer for service.
4. Fan operates briefly then stops and cycles again.	4a. Blocked duct work or excessive length.	4a. Check for any obstructions in the ducting. The most common are bird nests in the roof cap or wall cap where the fan intakes from the outside.
		4b. Change air filter (if equipped).
		4c. Change/clear bug filter.
		4d. Reduce or simplify duct length.
		4e. Reduce airflow setting.

REPLACEMENT PARTS



#	Qty.	Description	Replacement Part #
1	2	Mounting Brackets	E1650001
2	1	6" Metal Collar (Intake)	E1650002
3	1	6" Metal Collar (Outlet)	E1650003
4	1	Blower Assembly	E1650102
5	1	Wire Compartment Assembly	E1650101
6	1	Adjustment Knobs	E1299802
7	1	Unit Mounted Programmable Controller	E1650004
8	2	Air Filter (2-pack)	E1650123
9	1	Relay Box	E1650021

NOTES: