



WARNING

WARNING — THE INSTALLATION MUST BE CARRIED OUT BY A QUALIFIED ELECTRICIAN.

1. For general ventilating use only. DO NOT use to exhaust hazardous or explosive materials and vapours
2. This product is designed for installation in ceilings up to a 12/12 pitch (45°).
Duct connector MUST point up. DO NOT mount this product in a wall
3. To avoid motor bearing damage and noisy and/or unbalanced impellers, keep drywall spray, construction dust, etc. off power unit
4. Read specification label on product for further information and requirements

Application Notice

1. Use this unit only in the manner intended by the manufacturer. Contact the manufacturer in case of questions
2. Before servicing or cleaning unit, switch power off at service panel and lock the service disconnecting means to prevent power from being switching on accidentally. When the service disconnecting means cannot be locked, securely fasten a prominent warning device, such as a tag, to the service panel
3. Installation work and electrical wiring must be done by a qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction codes and standards
4. 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
5. When cutting or drilling into wall or ceiling, DO NOT damage electrical wiring and other hidden utilities
6. Ducted fans MUST always be vented to the outdoors
7. Acceptable for use over a tub or shower when connected to a GFCI (Ground Fault Circuit Interrupter) —protected branch circuit (ceiling installation only)
8. To reduce risk of fire and to properly exhaust air, be sure to duct air outside — DO NOT vent exhaust air into spaces within walls or ceilings or into attics, crawl spaces, or garages. This fan is NOT for use in kitchens
9. DO NOT use this fan with any solid-state speed control device
10. The fan MUST NOT be installed in a ceiling thermally insulated to a value greater than R40
11. This unit must be grounded. Install the fan at least 2.5m (8.2ft) above the floor

CAUTION

PLEASE READ INSTRUCTION BEFORE COMMENCING INSTALLATION AND RETAIN FOR FUTURE REFERENCES.

Electrical products can cause death or injury, or damage to property.

If in any doubt about the installation or use of this product, consult a competent electrician.

CLEANING & MAINTENANCE

For quiet and efficient operation, long life, and attractive appearance — lower or remove grille and vacuum interior of unit with the dusting brush attachment. The motor is permanently lubricated and never needs oiling. If the motor bearings are making excessive or unusual noises, replace the motor with the exact service motor. The impeller should also be replaced.

OPERATION

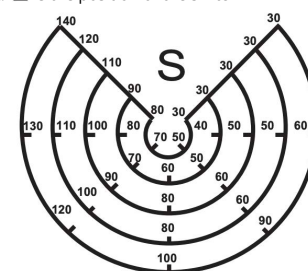
User Setting

The control box, located inside the fan housing, has three separate adjustments:

- 1) The low airflow knob adjusts the lower airflow from 30 CFM up to the airflow rate of the high fan speed determined by the toggle switch setting
- 2) The time delay knob is adjustable from 3 to 30 minutes and will switch the fan to the low speed setting after motion is no longer detected in the room for the set period of time
- 3) The toggle switch will adjust the upper fan speed setting from 90 to 140

					
Switch position					
Air deliver (CFM)	80	90	110	120	140
Duct diameter (inches)	6"				

To change the pre-selected airflow, adjust the control switches as per the table on the left. ■ is the position of the switch



OPERATION

For Dual Speed Setting

To Turn Fan ON

Turn the switch (according to CONNECT WIRING on page 4) ON.

- Fan will run at the certified airflow rate if the switch II is ON
- Fan will run at the user-adjustable airflow rate if the switch II is OFF

For Single Speed Setting

Use switch to operate this fan. See CONNECT WIRING on page 4 for details (see Fig.2 on that page 4 of this manual)

To Turn Fan OFF

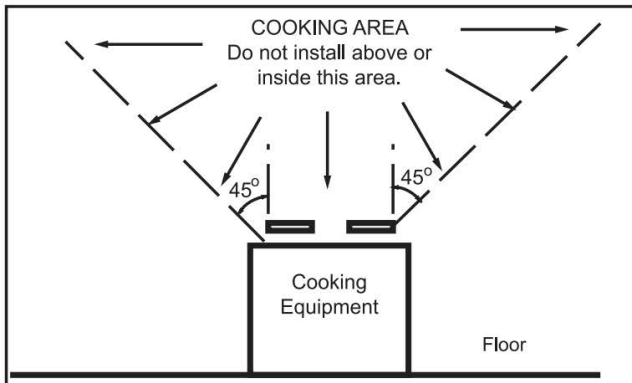
Turn the switch I OFF

To Use Fan Time Delay Airflow Rate Change

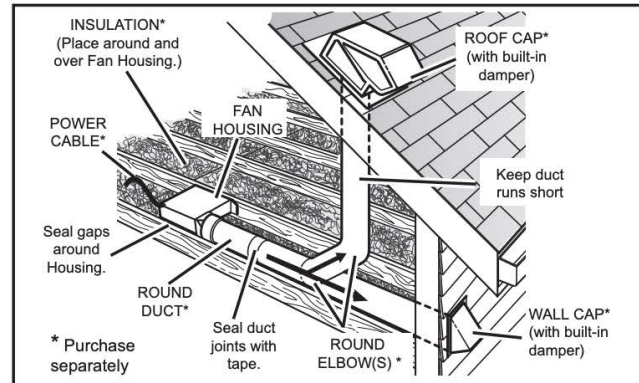
- Turn the switch I ON
- Turn the switch II ON — fan will run at the certified airflow rate
- When the switch II is turned OFF, fan will continue to run at the certified airflow rate until the user-adjustable time delay has elapsed, and then will automatically change to the user-adjustable airflow rate

INSTALLATION GUIDE

Plan the Installation



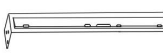
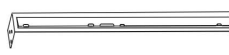
1. DO NOT use in a cooking area



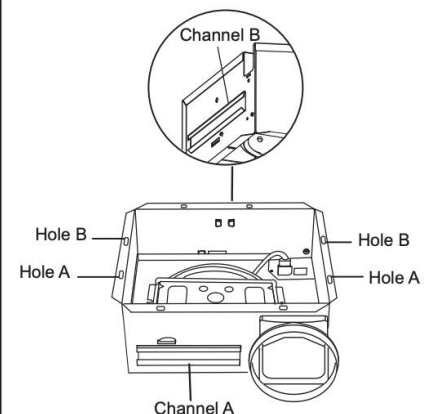
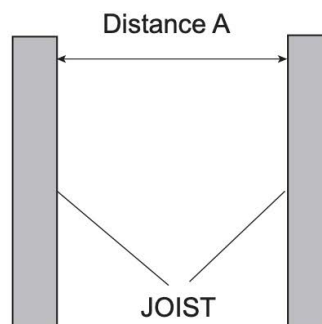
2. Two ways to connect ductwork to a factory-shipped unit

Assembly Instructions

1. Before installation, you need to know:

Screw A		ST4.2*13mm
Screw B		ST4.2*25mm
Hanger bar (short)		7 1/2 in (190mm)
Hanger bar (long)		13 3/8 in (340mm)

Note: Hanger bar (short) only can slide into channel A.



INSTALLATION GUIDE

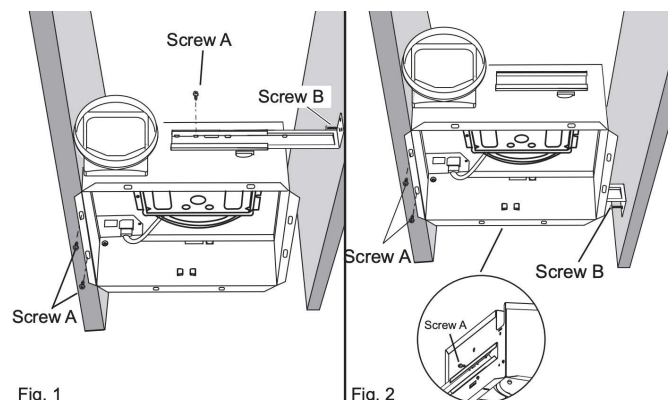
Assembly Instructions

2. Mount with Mounting Holes and Hanger Bar

Slide one hanger bar into the channel on the housing and adjust as needed to fit between framing. Hold housing in place so that the housing contact the bottom of the joist. Screw housing to joist through the hole A and hole B. Screw the hanger bar onto the other side of joist through the hole (refer to the diagram on the right). Screw hanger bar to housing with screw A.

The Choice of Hanger Bar

Distance A	Hanger Bar	Channel
13 1/4 in to 15 1/2 in (336mm-394mm)	Hanger bar (short)	Channel A (Fig. 1)
16 1/2 in to 18 7/8 in (419mm-480mm)	Hanger bar (long)	Channel B (Fig. 2)

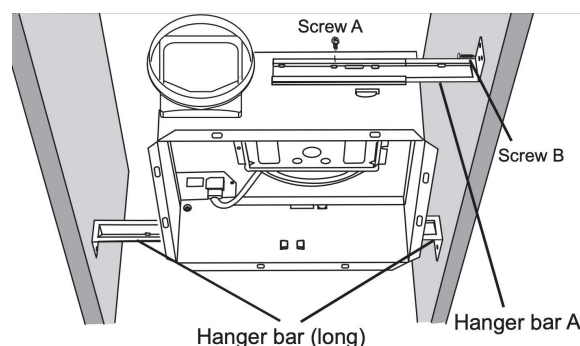


3. Mount with Hanger Bars Only

Slide hanger bars onto housing and adjust as needed to fit between framing. Extend the hanger bars to the width of the framing. Position the fan with the hanger bar tabs wrapped around the bottom edge of the framing, holding the fan in place. Secure hanger bars to framing using one screw on each end of hanger bar (refer to the right diagram). Screw hanger bar to housing with screw A.

The Choice of Hanger Bar A

Distance A	Hanger Bar A
14 in to 23 1/2 in (356mm-597mm)	Hanger bar (short)
21 1/4 in to 23 1/2 in (540mm-597mm)	Hanger bar (long)

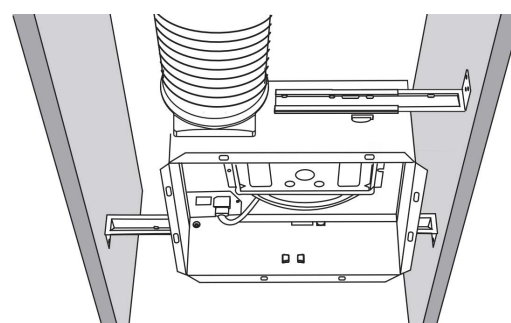
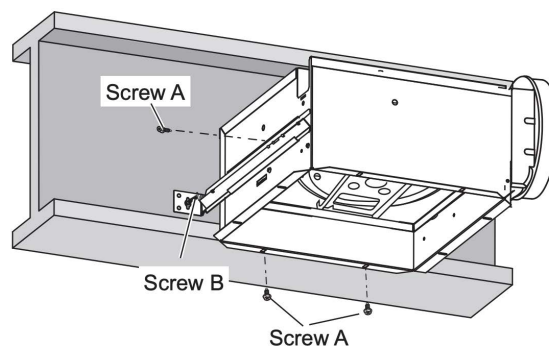


4. Mount to I-joist

Slide one hanger bar (long) into channel B on the housing and adjust as needed to fit between framing. Hold housing in place so that the housing contacts the bottom of the joist. Screw housing to joist through the hole A and hole B. Screw the hanger bar onto the other side of joist through the hole (refer to the right diagram). Screw hanger bar to housing with screw A.

5. Install Round Ductwork

Connect the round ductwork (not included) to the damper/duct connector, and run the ductwork to a roof or wall cap (not included). Using tape (not included), secure all the ductwork connections so that they are airtight. Insulated flexible duct is recommended for the quietest possible installation. If rigid duct is used, a short (1-3ft) section of insulated flexible duct will ensure quiet operation.



The ducting from this fan to the outside of building has a strong effect on the airflow, 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. Fans installed with existing ducts may not achieve their rated air flow.

INSTALLATION GUIDE

Connect Electrical Wiring

Run 120V AC house wiring to the location of the fan. Use only UL-approved connectors (not included) to attach the house wiring to the wiring plate. Refer to the wiring diagram below, and connect the wires as shown.

Fig.1 For Dual Speed Setting

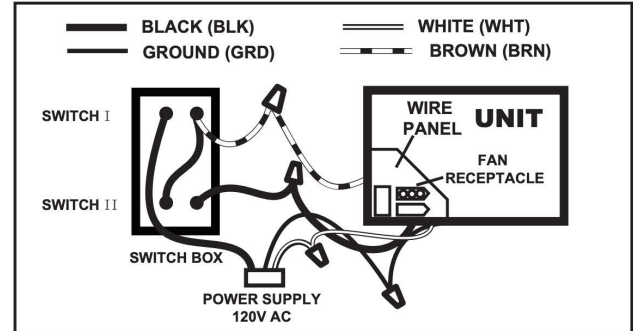
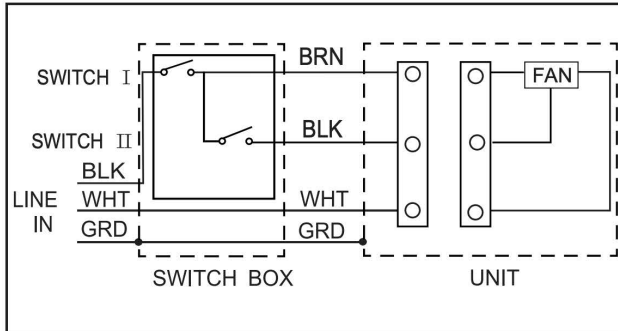


Fig.2 For Single Speed Setting

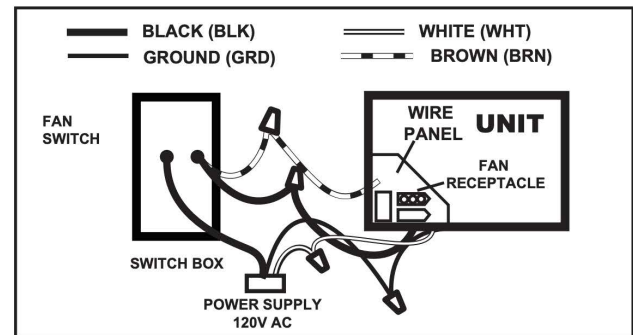
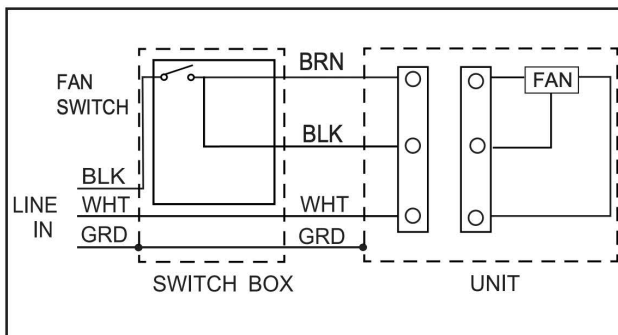
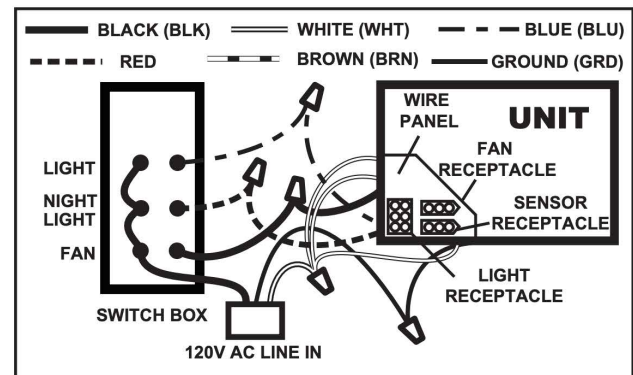
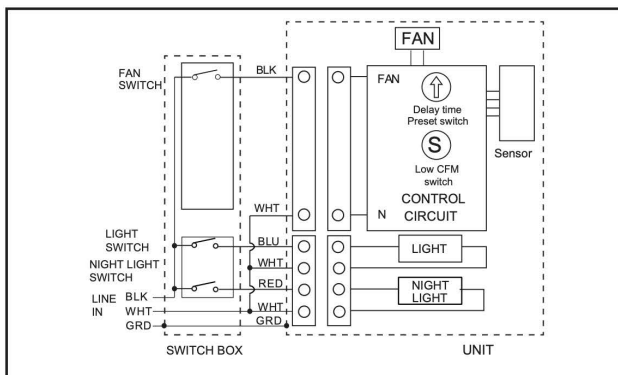
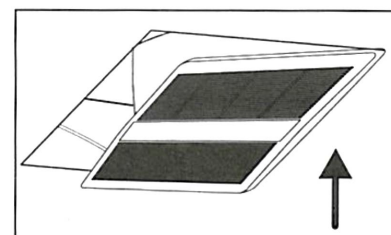


Fig.3 Fan with ADD on Motion Sensor Grille

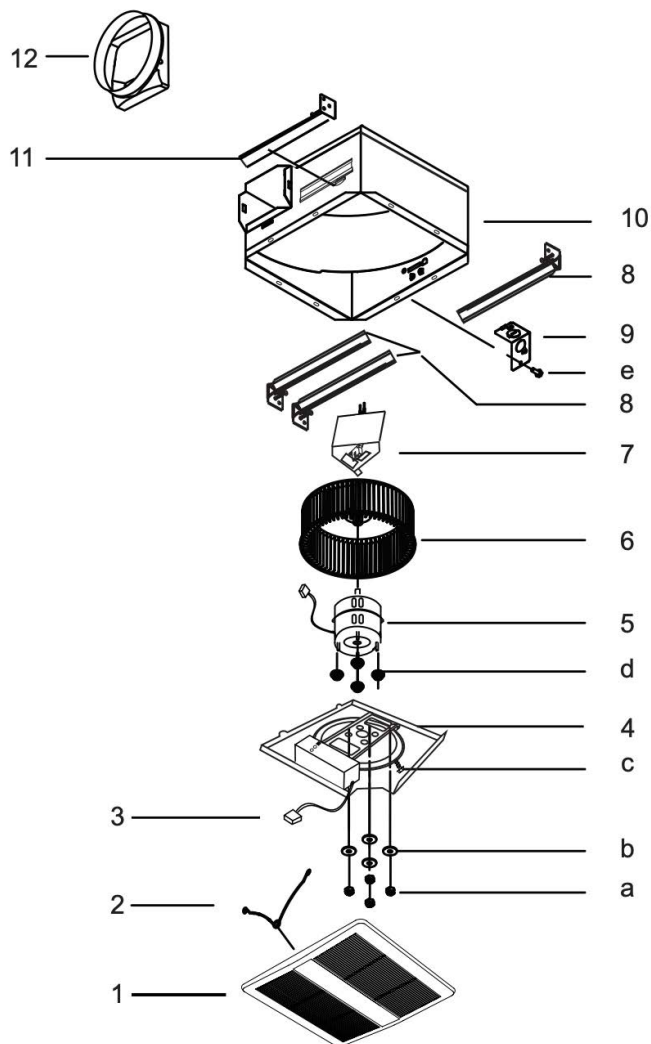


Install Grille

Install ceiling material to complete the ceiling construction. Then, cut around the fan housing. To attach the grille assembly to the housing, pinch the grille springs on the sides of the grille assembly, and position the grille into the housing with the grille springs in the appropriate slots. Push the grille assembly towards the ceiling to secure.



SERVICE PARTS



WARNING

Before replacing, be sure to turn OFF power at power source.

PART	PART NAME	Qty.
1	Grille Assembly (includes part 2)	1
2	Grille Spring	2
3	Power box	1
4	Motor Plate	1
5	Motor	1
6	Blower Wheel	1
7	Wire Panel / Harness Assembly	1
8	Hanger Bar Kit (long)	3
9	Wiring plate	1
10	Housing	1
11	Hanger Bar Kit (short)	1
12	Damper / Duct Connector	1
a	Nut, Hex Lock	4
b	Washer	4
c	Screw	1
d	Isolator	4
e	Screw	1

* Blower Assembly includes part 6, 5, d, 4, c, b, a

Replacement installation:

Remove the screw (part c), then take out the motor plate (part 4) from the housing (part 10) by pushing down the rib in the plate while pulling out on the side of the housing. Replace the broken parts.

ORTECH reserves the right to modify at any time, without notice, any or all of our product's features, designs, components and specifications to meet market changes.