

MODEL ODD-100HS | ODD-100HS+MS



**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. To avoid motor bearing damage and noisy and/or unbalanced impellers, keep drywall spray, construction dust, etc. off power unit
3. 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 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
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. This unit must be grounded
9. 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

**CAUTION**

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

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

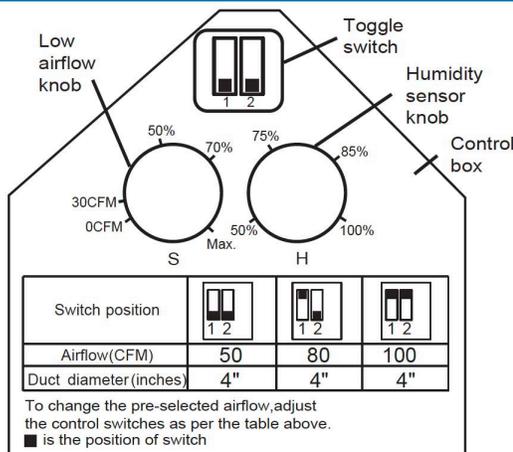
**If in any doubt about the installation or use of this product, consult a competent electrician.**

**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**



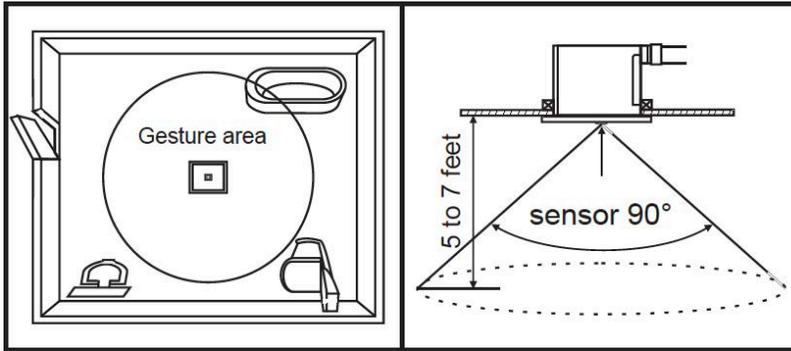
See "Connect Electrical Wiring" on page 5 of this instruction manual for details.

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

- 1) The low airflow knob adjusts the lower airflow from 0 CFM up to the airflow rate of the high fan speed determined by the toggle switch setting
- 2) For both ODD-100HS and ODD-100HS+MS, the humidity sensor knob set user-adjustable set point
- 3) The toggle switch will adjust the upper fan speed setting from 50 to 100 CFM

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OPERATION



For ODD-100HS+MS, turn ON the switch to activate sensor and continuous ventilation system. The fan will run continuously at the pre-set low speed. When motion is detected, the fan speed increases to high speed. When the person exits the area, the fan remains working at high speed until the delay time has passed (adjustable 20 minutes). After the time delay, the fan speed is reduced to the continuous ventilation rate.

Installation Distance: 5-7 ft  
Sensing range is within the cone angle of 90°

For both ODD-100HS and ODD-100HS+MS

Fan runs continuously at a low speed (adjustable by low airflow knob) and automatically boosts up to high speed when either of these conditions is detected: **a)** Humidity above a user-adjustable set point (50%-100% relative humidity) **b)** Rapid increases in humidity

After delay timer (20 minutes) returns fan to the default low speed, humidity sensor description according to HUMIDITY SENSOR OPERATION and SENSITIVITY ADJUSTMENT:

ODD-100HS

When the switch II is turned ON, the fan will run at high speed. When the switch II is turned OFF, fan will continue to run at the certified airflow rate until the delay timer (20 minutes) has elapsed, and then will automatically change to the user-adjustable airflow rate.

Humidity Sensor Operation of ODD-100HS and ODD-100HS+MS

The humidity-sensing fan uses a sophisticated humidity sensor that responds to: **a)** rapid increases in humidity or **b)** humidity above a user-adjustable set point (50%-100% relative humidity). Fan runs continuously at a pre-set lower level (set by low airflow knob) and automatically boosts up to certified airflow rate when environmental conditions change. If the fan continuously responds to changing environmental conditions, "H" (means humidity) adjustment may be required. The figure is factory-set for about 75% (ambient temperature of +25°C).

Sensitivity Adjustment

The "H" (humidity) has been factory set for most shower applications. However, if the fan is in a tub area or is being used for dampness control, the "H" may need to be increased toward maximum. If the control is responding too often to changing environmental conditions, movement toward minimum, "H" may be required. To adjust the "H":

1. Disconnect power at service entrance
2. Through the grille, locate the slot marked "H"
3. Carefully rotate the "H" adjustment toward maximum or minimum
4. Turn ON power and check operation by turning ON the shower or other humidity source until the fan turns ON
5. Repeat above steps if necessary. When the temperature changes, humidity sensor values will have deviation

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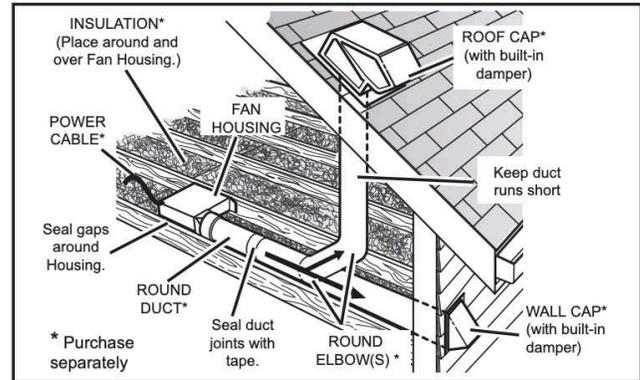
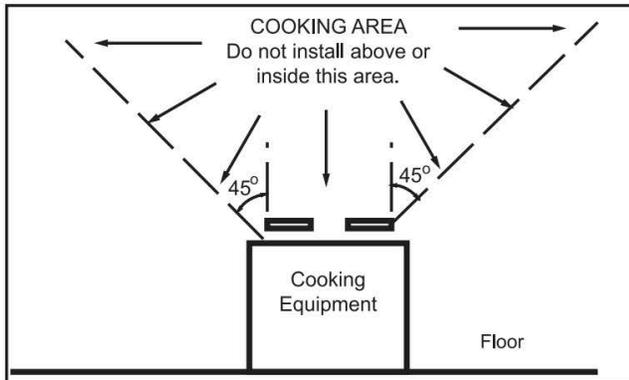
Types of Typical Installations

1. Housing mounted to I-joists (refer to Assembly Instructions 1 on the next page of this manual)
2. Housing mounted to joists (refer to Assembly Instructions 1 on the next page of this manual)
3. Housing mounted to truss (refer to Assembly Instructions 2 on the next page of this manual)

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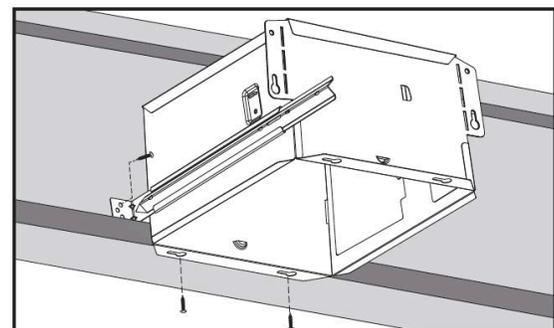
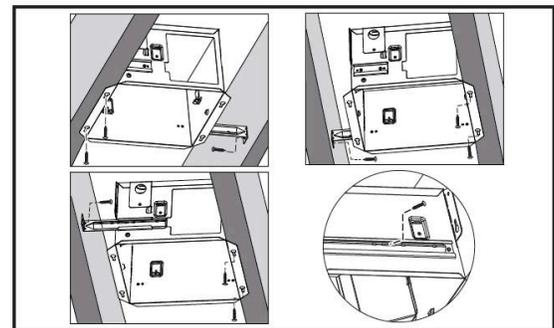
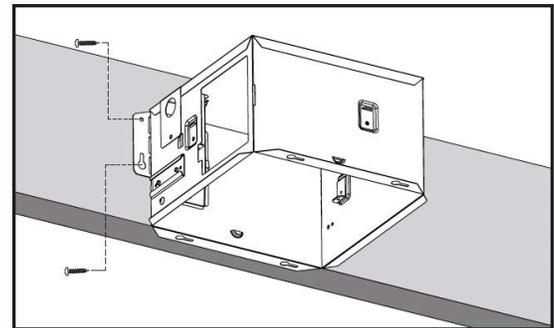
#### Plan the Installation



1. DO NOT use in a cooking area
2. Two ways to connect ductwork to a factory-shipped unit

#### Assembly Instructions

1. Mount Housing to Joist or I-joint
  - a) Hold the housing so that it is in contact with the bottom of the joist
  - b) Attach the housing with four (4) screws to the joist through the holes in each mounting flange
  
2. Mount with Mounting Holes and Hanger Bar
  - a) Slide one hanger bar into the channel on the housing and adjust as needed to fit between framing
  - b) Hold housing in place so that the housing contact the bottom of the joist. Screw housing to joist through the hole of the housing
  - c) Screw the hanger bar onto the other side of joist through the hole
  - d) Screw hanger bar to housing with screw
  - e) Refer to the diagram on the right
  
3. Mount to I-joist
  - a) Slide one hanger bar into channel on the housing and adjust as needed
  - b) Hold housing in place so that the housing contacts the bottom of the joist
  - c) Screw housing to joist through the hole of the housing
  - d) Screw the hanger bar onto the joist through the hole
  - e) Screw hanger bar to housing with screw



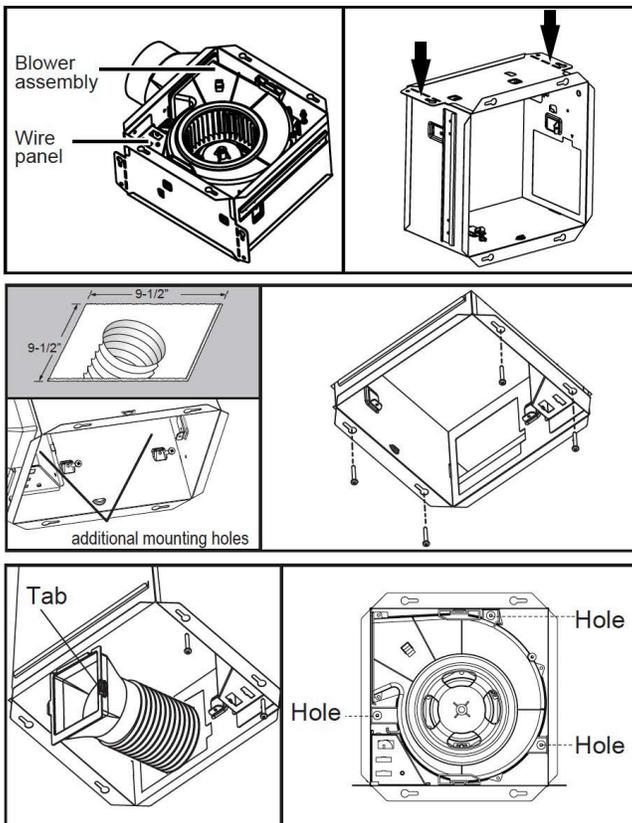
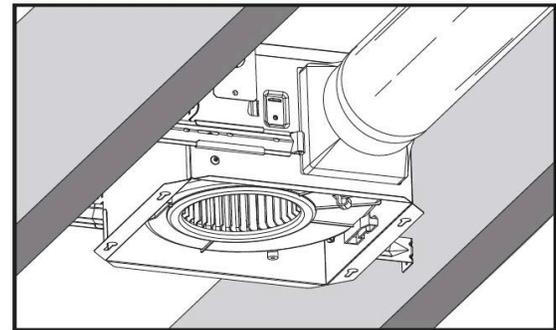
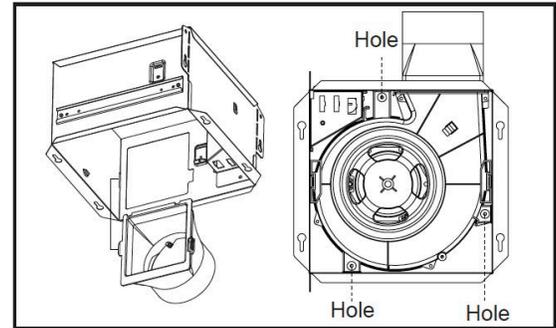
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### INSTALLATION GUIDE

#### Assembly Instructions

4. Install Duct and Blower Assembly
  - a) Install duct from the inside of the housing. Fix the duct by the tab
  - b) Fix the blower assembly to the housing by 3 screws
  
5. Install Round Ductwork
  - a) Connect the round ductwork (not included) to the damper / duct connector, and run the ductwork to a roof or wall cap (not included)
  - b) Using tape (not included), secure all the ductwork connections so that they are airtight
  - c) Insulated flexible duct is recommended for the quietest possible installation. If rigid duct is used, a short (1-3 feet) 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 airflow.



#### Retrofit Installation

1. Remove wire panel and blower assembly before installation
2. Fold mounting ears flat against housing
3. Enlarge ceiling opening to 9-1/2" by 9-1/2".  
Leave ductwork and wiring in place
4. Connect wiring according to the WIRING DIAGRAM on page 5 of this instruction manual.  
Re-install wire panel
5. Mounting Fan:
  - a) the interior of the fan housing contains additional mounting holes in case exterior mounting is not possible. Screw or nail the fan housing directly to the framing or joists. Remove the blower assembly as directed in the service parts on the very last page of this instruction manual to gain access to the additional mounting holes
  - b) Mount with Hole of the Flange:  
Use screws (included) to screw fans to the ceiling through the holes of the housing
6. Connect Duct:  
Pull existing ducting through housing discharge opening and tape ducting to duct connector. Push connector / ducting back through opening, fix the duct by the tab
7. Install the blower assembly

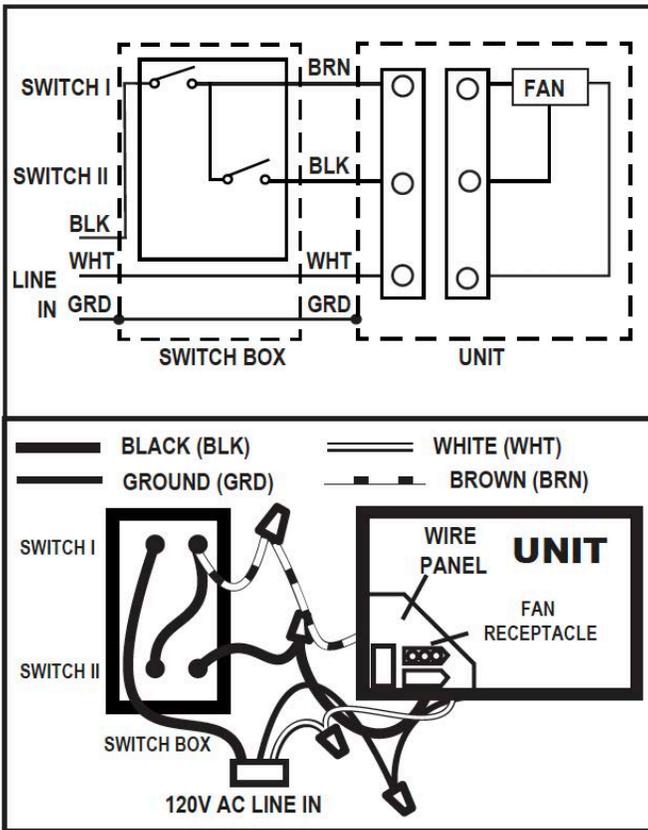
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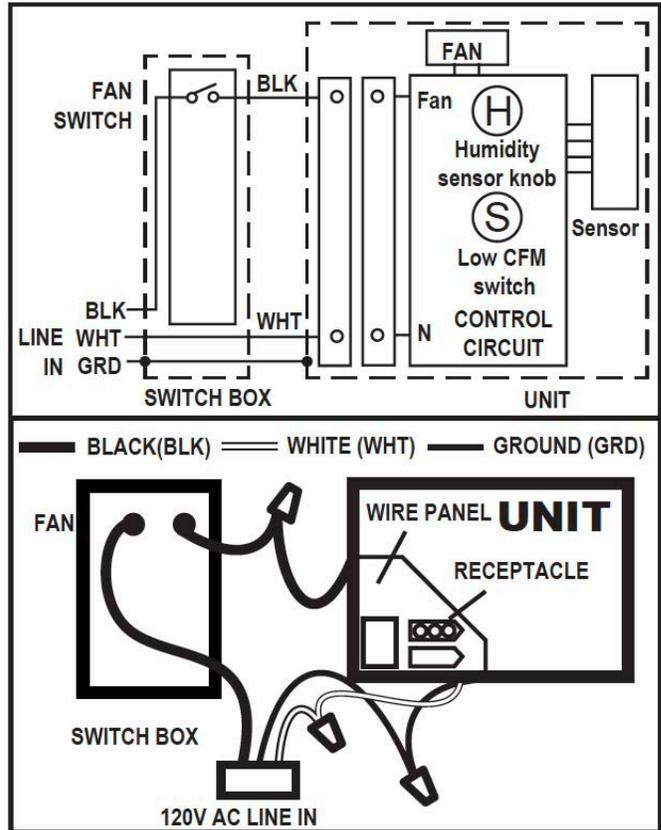
Connect Electrical Wiring

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.

ODD-100HS Wiring Diagram



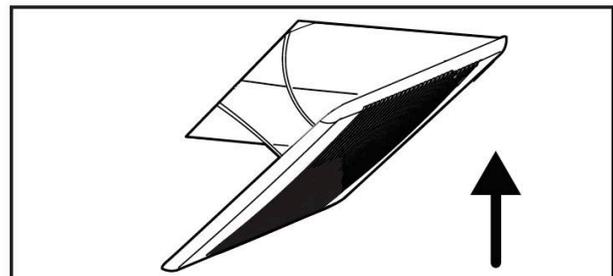
ODD-100HS+MS Wiring Diagram



Install Grille

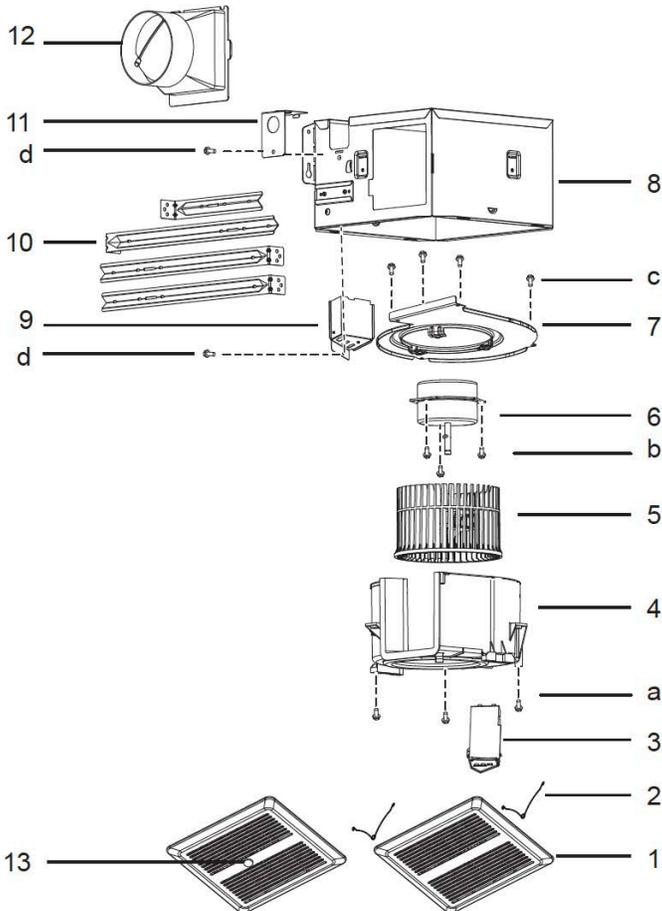
Install ceiling material to complete the ceiling construction. Then, cut around the fan housing. Insert the sensor plug into the plug base on the power box first, and then install the grille (for ODD-100HS+MS).

To attach the grille assembly to the fan 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.



INSTALLATION GUIDE

Service Parts



\* Blower Assembly includes part 3, 4, 5, 6, 7, a, b

\* Replacement Installation:

Remove the screw (part a), then take out the blower assembly from the housing (part 8). Replace the broken parts.

PART	PART NAME	Qty.
1	Grille Assembly (includes part 2)	1
2	Grille Spring	2
3	Power Box	1
4	Blower	1
5	Blower Wheel	1
6	Motor	1
7	Motor Plate	1
8	Housing	1
9	Wire Panel / Harness Assembly	1
10	Hanger Bars	4
11	Wiring Plate	1
12	Damper/Duct Connector	1
13	Motion sensor (ODD-100MS ODD-100HS+MS)	1
a	Screw	3
b	Screw	3
c	Screw	4
d	Screw	2

**WARNING**

Ensure that the fan is switched OFF from the supply mains before replacing