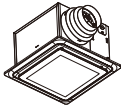


## BATH FAN

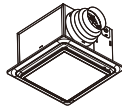
### INSTALLATION INSTRUCTIONS

Model No.

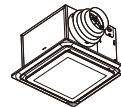
ABF110DHG5 Series



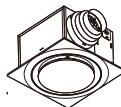
ABF110DHL5 Series



ABF110DCMH-SG5



ABF110DHG6 Series



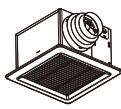
ABF110DHL6 Series



ABF110DCMH-SG6



ABF110DHG1 Series



ABF110DHL1 Series



### READ AND SAVE THESE INSTRUCTIONS

Thank you very much for purchasing our bath fan. Please read the instructions carefully before attempting to install, operate or service our ventilating fan. Failure to comply with instructions could result in personal injury or property damage. Please retain this booklet for future reference.

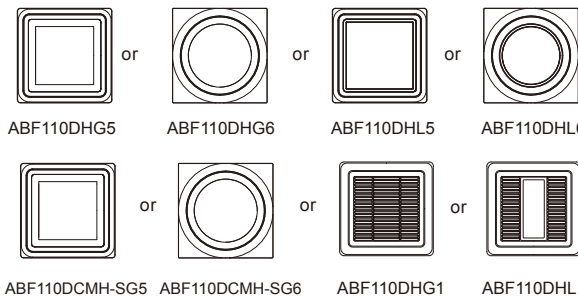




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## UNPACKING

Unpack and carefully remove the unit from carton.  
Refer to the supplied accessories list to verify that all parts are present.

## SUPPLIED ACCESSORIES

Part name		Quantity
Grille	 <p>ABF110DHG5 or ABF110DHG6 or ABF110DHL5 or ABF110DHL6 ABF110DCMH-SG5 or ABF110DCMH-SG6 or ABF110DHG1 or ABF110DHL1</p>	1
Suspension bracket assembly		1
Long screw (ST4X30)		5
Wire Protector Nut		1
Installation instructions		1

## DESCRIPTION

These bath fan models are listed by ETL under ETL file No.5011292.  
These bath fan models use a Sirocco fan driven by a brushless DC motor.  
The motor is designed to have an extended service life with reduced energy consumption.  
The grille covering the fan body is a spring-loaded, quick attach type. A damper for preventing air counterflow is provided.  
The suspension bracket assembly can be used for both new and retrofit situation.  
The light uses a bright SMD LED.

## GENERAL SAFETY INFORMATION

1. Do not install this ventilating fan where interior room temperature may exceed 104°F (40°C).
2. Make sure that the electric service supply voltage is AC 120V, 60Hz.
3. Follow all local electrical and safety codes, as well as the National Electrical Code (NEC), and the Occupation Safety and Health Act (OSHA).
4. Always disconnect the power source before working on or near the fan, motor, light fixture, or junction box.
5. Protect the power cord from sharp edges, oil, grease, hot surfaces, chemicals or other objects.
- 6 Do not kink the power cord.
7. Do not install the unit where ducts are configured as shown in Fig.A.
8. Provide make up air for proper ventilation.

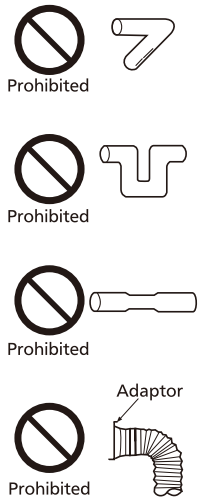


Fig. A

### CAUTION:

1. For general ventilating use only. Do not use to exhaust hazardous or explosive materials and vapors.
2. Not for use in cooking area. (Fig.B)
3. This product must be properly grounded.

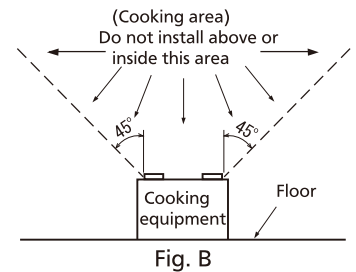


Fig. B

### WARNING:

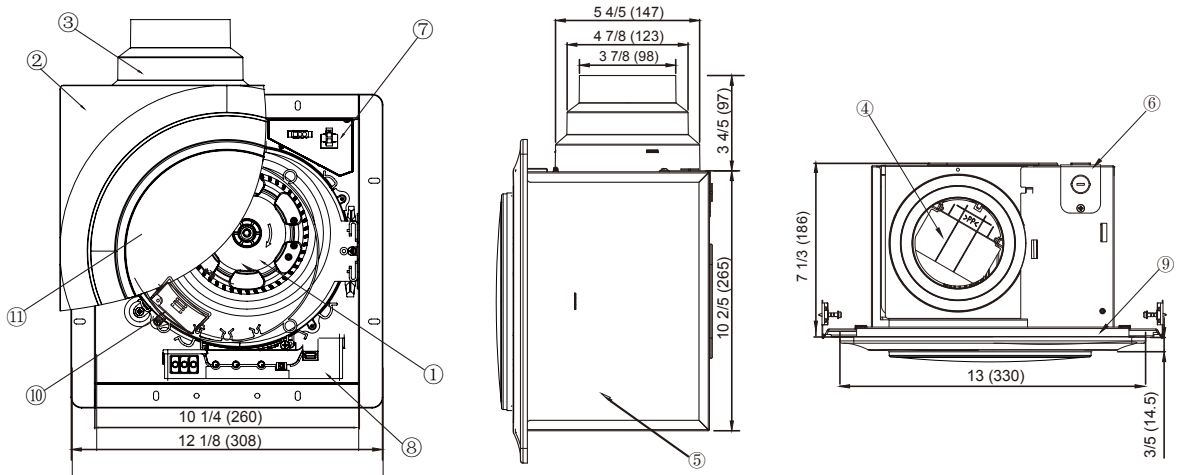
To reduce the risk of fire, electric shock, or injury to persons, observe the following:

1. Use this unit only in the manner intended by the manufacturer. If you have any questions, contact the manufacturer.
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 qualified person(s) in accordance with all applicable codes and standards, including fire-rated construction.
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 of 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. If this unit is to be installed over a tub or shower, it must be marked as appropriate for the application and be connected to a GFCI (Ground Fault Circuit Interrupter)-protected branch circuit.
8. These models are ETL listed for tub and shower enclosures.
9. Not to be installed in a ceiling thermally insulated to a value greater than R40. (This is required for installation in Canada only).

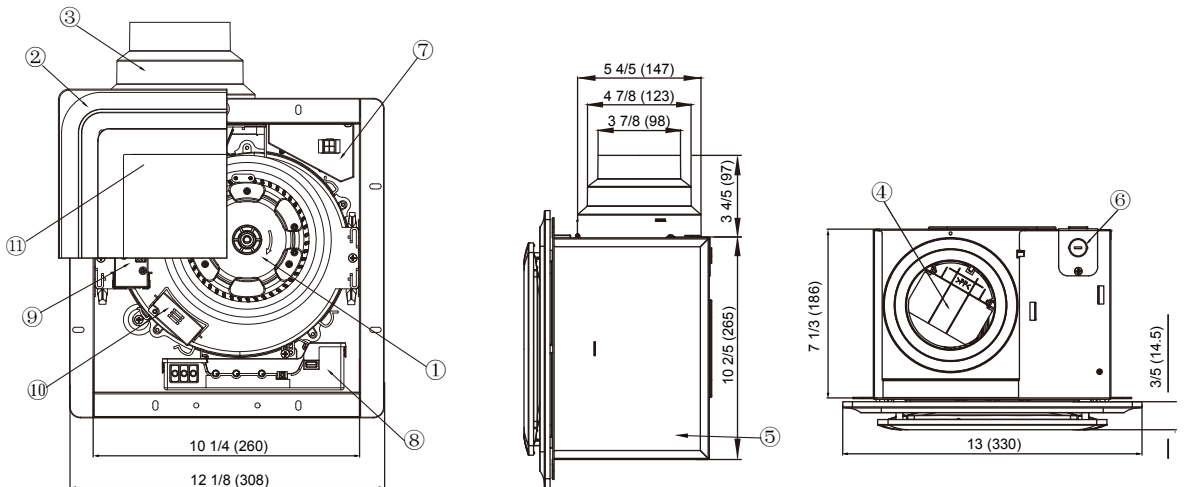
# DIMENSIONS

Model: ABF110DHG6 Series, ABF110DHL6 Series, ABF110DCMH-SG6

Unit: inches (mm)



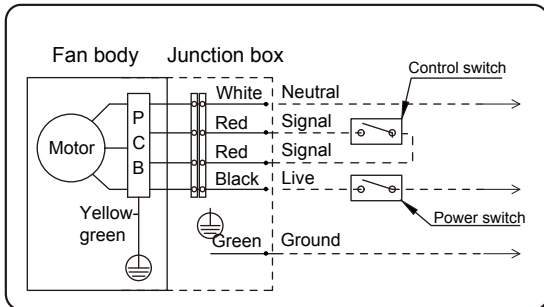
Model: ABF110DHG5 Series, ABF110DHL5 Series, ABF110DCMH-SG5



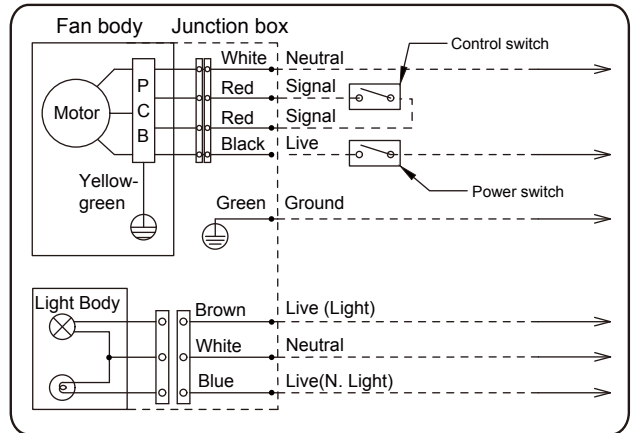
No.	Part name	No.	Part name
1	Blade	8	Base PCB box
2	Grille	9	Humidity sensor module
3	Adaptor	10	CO <sub>2</sub> sensor module
4	Damper	11	LED light
5	Frame assy		
6	Knockout plate		
7	Junction box		

## WIRING DIAGRAM

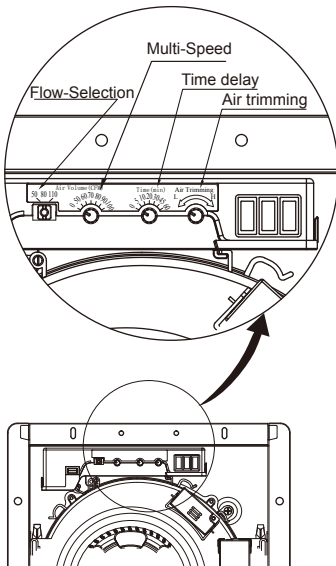
Model: ABF110DHG5 / ABF110DHG6  
/ ABF110DHG1  
ABF11DCMH-SG5 / ABF110DCMH-SG6



Model: ABF110DHL5 / ABF110DHL6 / AB110DHL1



## FEATURES



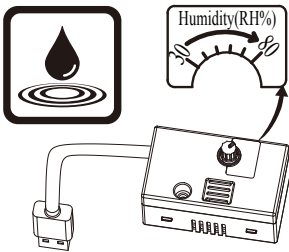
- CFM-Selection. Choose 50-80-110CFM; default is high speed.
- Multi-Speed- Switch allows fan to run at continuous lower speed to meet Indoor Air Quality. For example, when Flow-Selection setting is 80CFM, Multi-Speed can be chosen 0, 50, 60, or 70CFM as a low speed.
- Delay- Switch for time delay setting. Setting range is 0, 5, 10, 20, 30, 45, or 60 minutes.
- Air Trimming- Switch allows fine-tuning of air volume when the actual airflow is lower than set.

## INSTRUCTIONS:

Turn the power on.

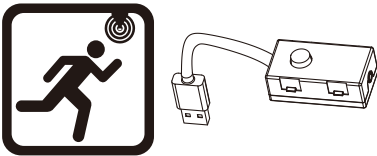
- ①When the control switch is turned on, the fan will run continuously at high speed only. The power must be on before turning the control switch on. The sensors will not work and Time Delay Switch does not apply to this mode.
- ②When the control switch is turned off, the fan will run at chosen low speed on Multi-Speed switch continuously, and boost to the high speed when the sensor detects an increase in Relative Humidity. The fan will run at high speed for amount of time selected from the Time Delay Switch before returning to lower speed when the Relative Humidity falls below the set point.

## PLUG-IN DEVICES



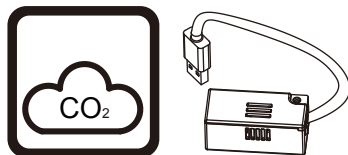
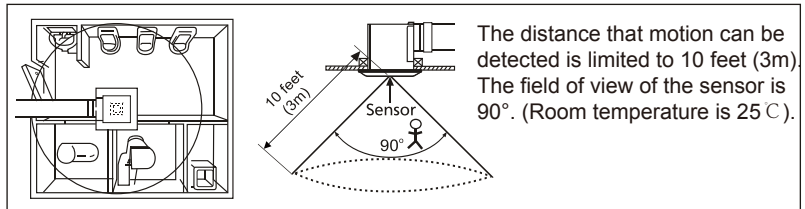
- **Humidity Sensor Module-** Included in this Aero Pure fan. Insert module into USB interface. The fan automatically turns on or boosts to a higher speed when the Relative Humidity (RH) exceeds the user-adjustable set-point. The fan automatically runs in a lower speed after a period of time delay or stops running when the Relative Humidity falls below the set-point.

Humidity detection value setting range: 30% - 80%



- **Motion Sensor Module-** Insert model into USB interface. The fan runs or boosts to high speed when motion sensor begins to detect. The fan runs in low speed after a period of time delay or stops working when you are out of detection range.

Motion Sensor detection range as below,



- **CO2 Sensor Module-** Insert module into USB interface. The module begins to detect environmental CO2 concentration when fan is on for 2 minutes, then the fan starts to run or boosts to high speed when concentration level is over 1000PPM. The fan runs in low speed after a period of time delay or stops working when concentration level is less than 800PPM.

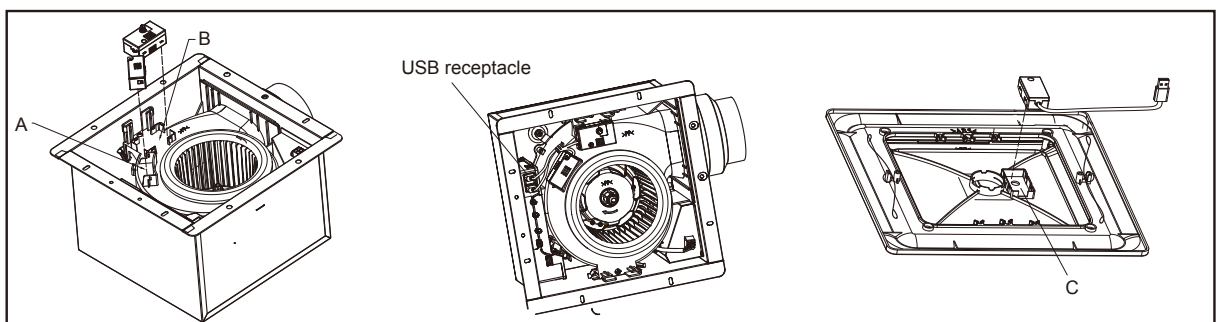
## INSTALLATION PLUG-IN DEVICES

Humidity Sensor Module or Motion Sensor Module is included with this fan.

Contact Aero Pure to purchase CO2 Sensor Module.

Position A is for CO2 Sensor module, position B is for Humidity Sensor module, and position C is for Motion Sensor module.

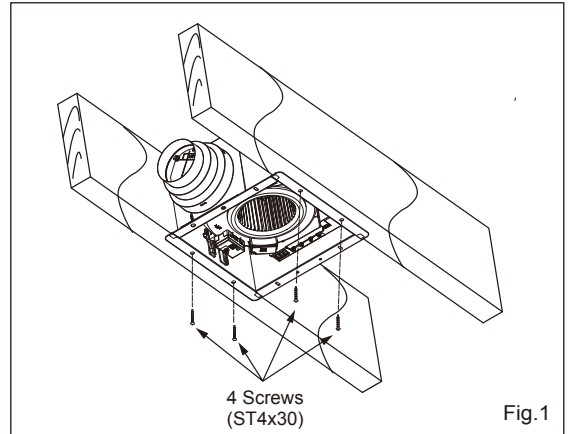
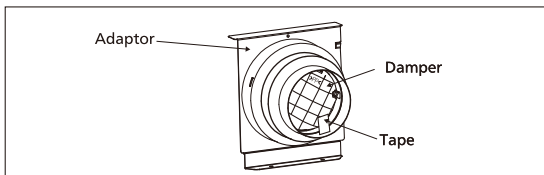
1. Fix to the specified devices to the slot, till hear the sound installed in place.
2. Access USB interface, insert the connector of module into USB receptacle.



## INSTALLATION I (NEW CONSTRUCTION)

**! CAUTION:**  
Please wear gloves during the installation work.

**IMPORTANT:**  
Remove the tape from damper and adaptor before installation. As shown below:

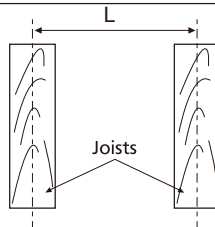


**Joist situation:**

Two cases of spacing L :

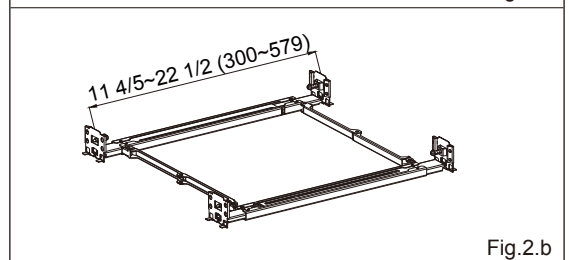
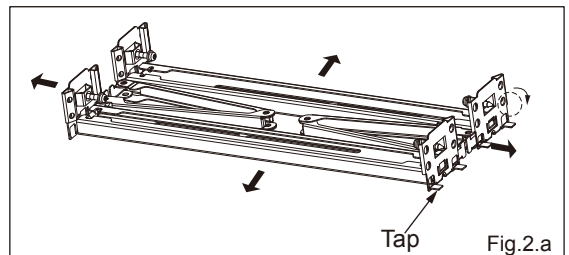
**A** 12 inches (305 mm)

**B** 16~24 inches (406~610 mm)



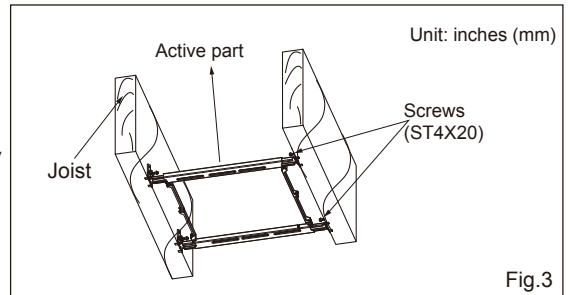
**A** If the spacing L is 12 inches (305 mm) on joists, please follow the installation step as (Fig.1). Secure 4 screws (ST4X30) at flange of frame to the joists. Then follow steps 6 to 9 of Installation I (page 6-8) to complete the installation.

**B** If the spacing L is 16~24 inches (406~610 mm), use the suspension bracket assembly.



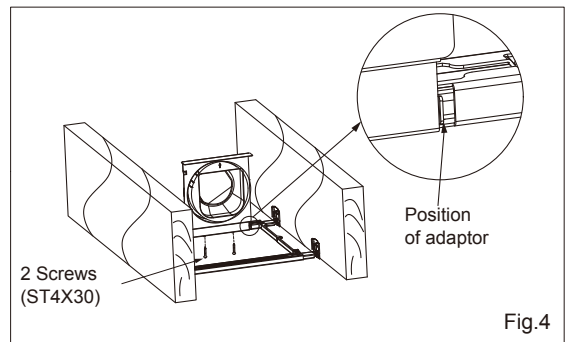
## INSTALLATION I (NEW CONSTRUCTION) CONTINUED

1. Bend down 8 tabs for positioning as (Fig.2.a) and unfold the bracket assembly as (Fig.2.b).
2. Fix one side of the bracket assembly to the joists by drilling 2 tapping screws (ST4x20) which have been fixed on it. (Fig.3)



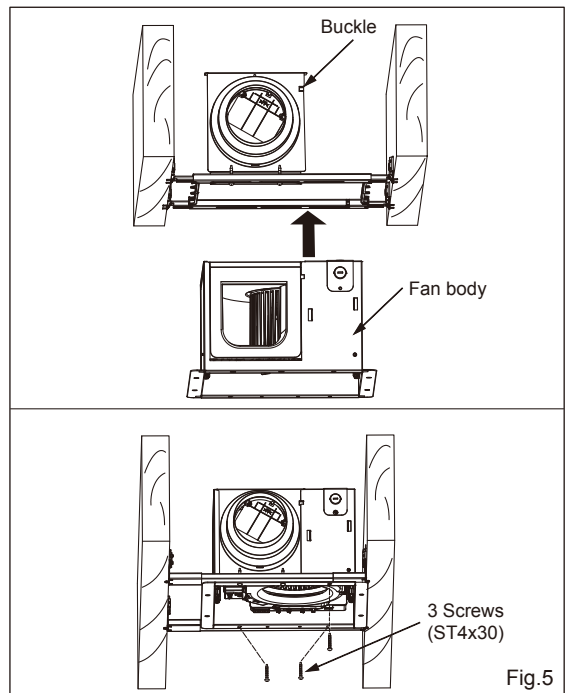
3. Adjust the length of bracket assembly as the spacing between joists, and install to joist by drilling the other 2 tapping screws which have been fixed on the other side. Adjust the active part of bracket assembly to the proper position. (Fig.3)

4. Place the adaptor on the bracket assembly as indicated position, and install it by using 2 self-drilling screws (ST4X30). (Fig.4)



5. Push the fan body upwards until the fan body is stopped by the buckle on the adaptor and secure the fan body by using the remaining 3 self-drilling screws (ST4X30). (Fig.5)

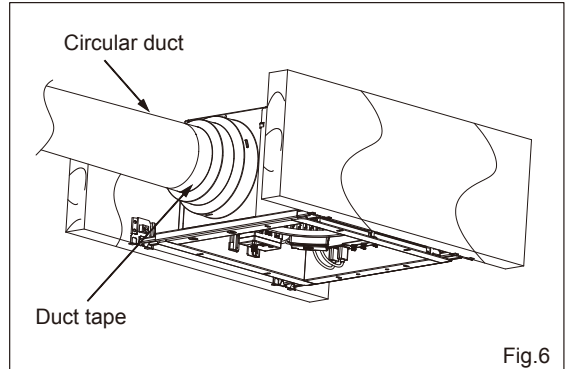
**! CAUTION:**  
Hold the fan body to prevent falling before fixing the screws.





## INSTALLATION I (NEW CONSTRUCTION) CONTINUED

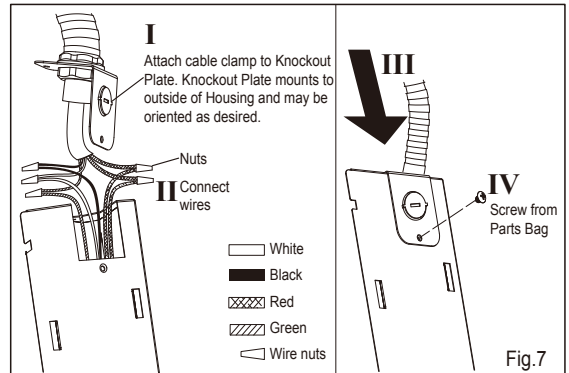
6. Install a circular duct and secure it with clamps or ties and seal it with mastic or approved duct tape. A 4", 5", or 6" circular duct is needed to connect to relevant part of adaptor. (Fig.6)



7. Remove the knock-out plate and secure conduit or wire protector nut to knock-out hole. (Fig.7. I)  
Refer to wiring diagram on page 5.  
Using UL approved wire nuts, connect house power wires to the ventilating fan wires (Fig.7. II), then attach it to fan body.

### IMPORTANT:

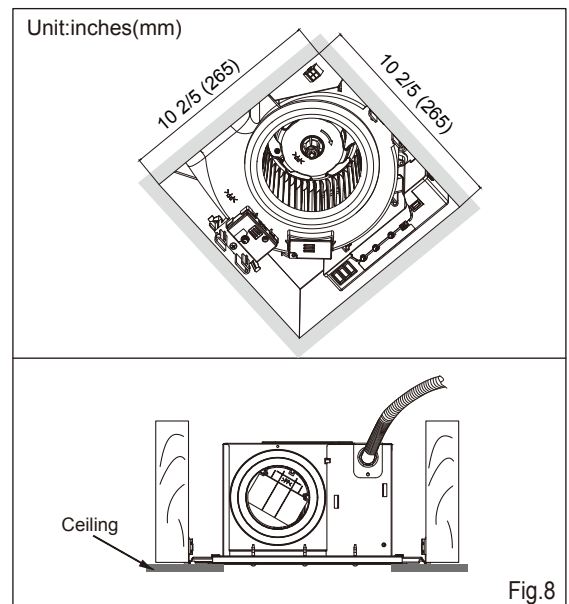
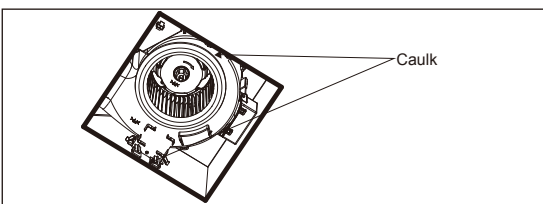
Follow all the local electrical safety codes as well as the National Electrical Code (NEC).



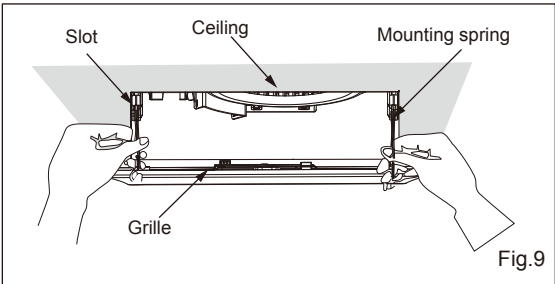
8. Finish ceiling work. Align ceiling hole with the inside edges of the flange. (Fig.8)

### IMPORTANT:

After finishing the ceiling work, fill gap between flange and ceiling with caulk or other sealant to prevent air leakage.



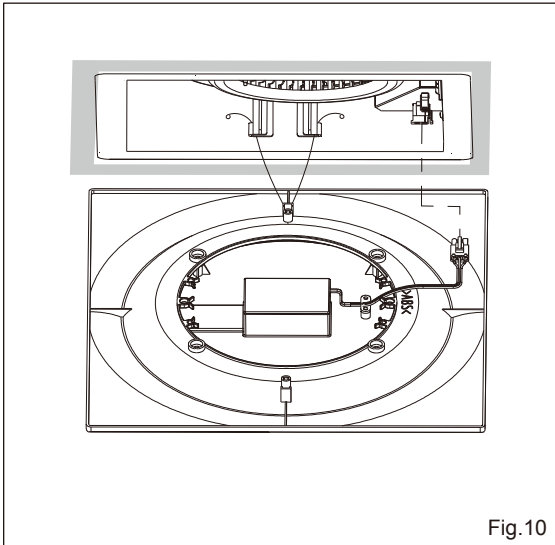
9. Insert mounting springs into slots and mount grille to fan body (Fig.9)



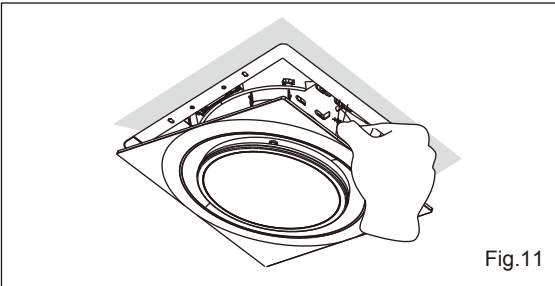
10. For grille with a light, refer to the following installation method.

**⚠ CAUTION:**  
 1. Before turning on the light, make sure the connector is at the correct position. If not, the lighting will not work.  
 2. The claw of connector must be secured to the rib completely. (Fig.10)

- Insert the grille mounting spring on the wiring side into the slot. (Fig.10)
- Insert the plug connector into the housing of the lighting unit and insert the other mounting spring into the slot as shown and mount grille to fan body. (Fig.10, Fig.11)



**⚠ CAUTION:**  
 Mount grille carefully so that lead wire of light unit is not pinched.



## INSTALLATION I (NEW CONSTRUCTION) CONTINUED

11. For grille with a module, refer to the following installation method.

Insert the grille mounting spring on the wiring side into the slot.

Insert the USB connector into the USB receptacle and insert other mounting spring into the slot as shown and mount grille to fan body.

(Fig. 12)

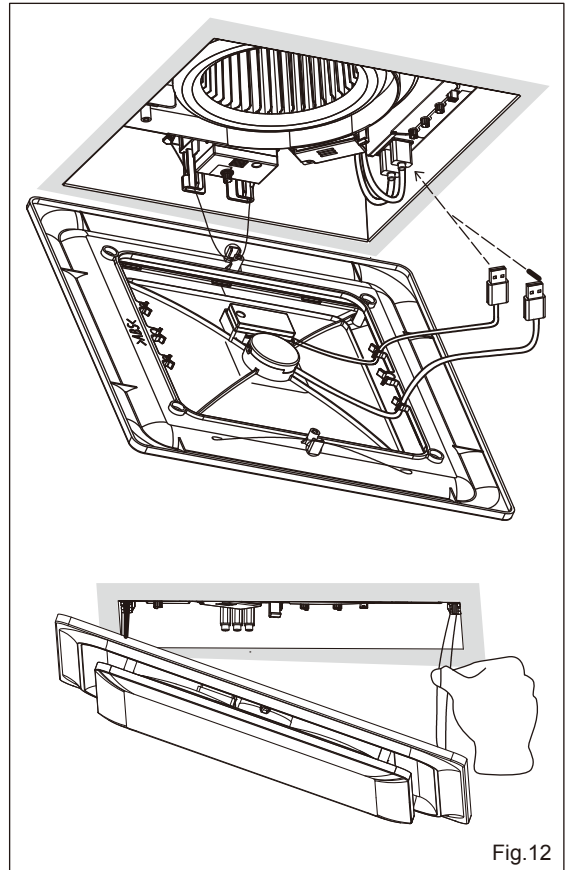


Fig. 12

## INSTALLATION II (RETROFIT)

1. Put the folded bracket assembly into ceiling hole, then follow step 3-4 of Installation I (NEW CONSTRUCTION page 8) to complete the bracket installation. (Fig. 13)

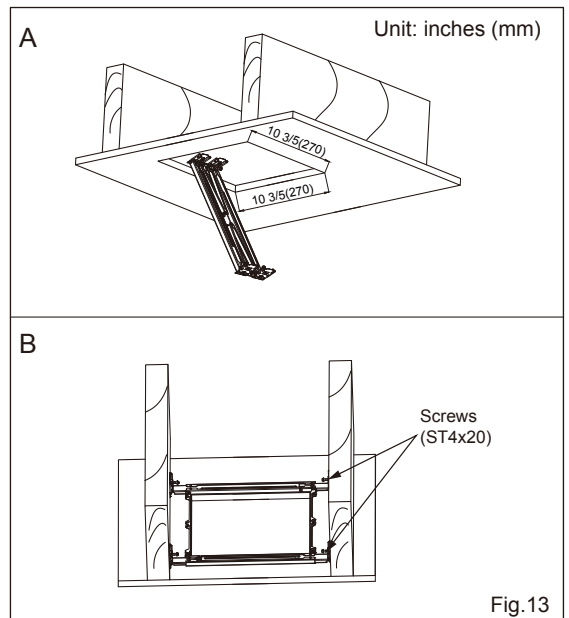
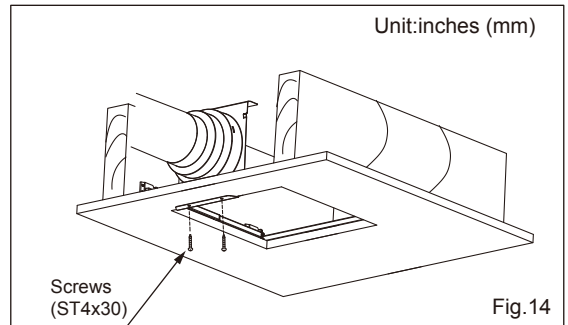


Fig. 13

## INSTALLATION II (RETROFIT) CONTINUED

2. Install a circular duct and secure with clamps or ties and seal with mastic or approved foil tape. A 4", 5", or 6" circular duct is needed to connect to relevant part of adaptor. (Fig.14)

Follow step 4 of Installation I (NEW CONSTRUCTION page 8) to complete the adaptor installation. (Fig.14)

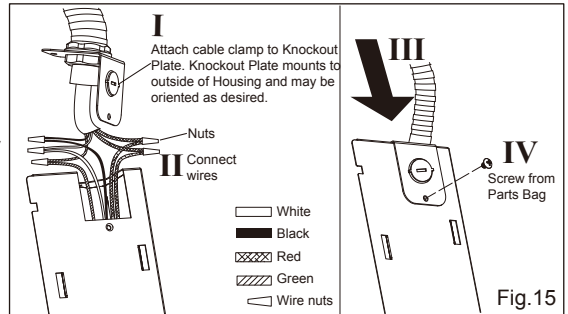


3. Remove the knock-out plate and secure conduit or wire protector nut to knock-out hole. (Fig.15)

Refer to wiring diagram on page 5.  
Using UL approved wire nuts, connect house power wires to the ventilating fan wires (Fig.15), then fix it to fan body

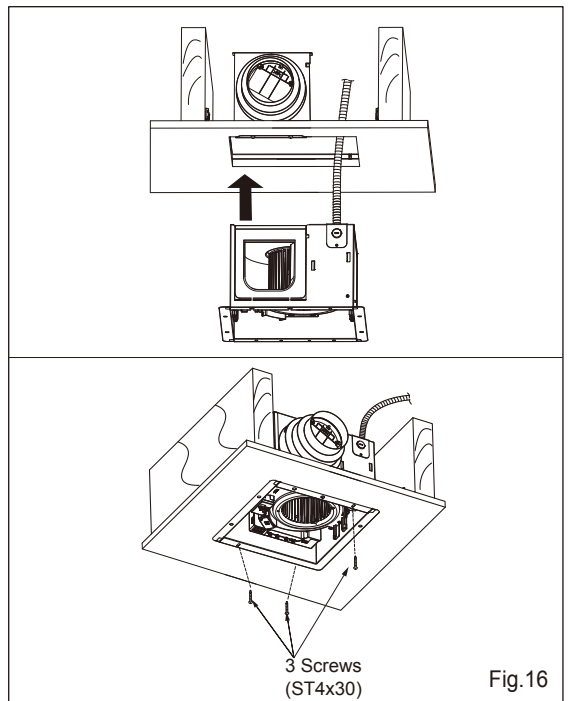
### IMPORTANT:

Follow all the local electrical safety codes as well as the National Electrical Code (NEC).



4. Push the fan body upwards until the fan body is secure with the joint, and secure them by using the remaining 3 self-drilling screws (ST4X30) (Fig.16)

5. Follow step 9 of Installation I (NEW CONSTRUCTION page 10) to complete the installation.



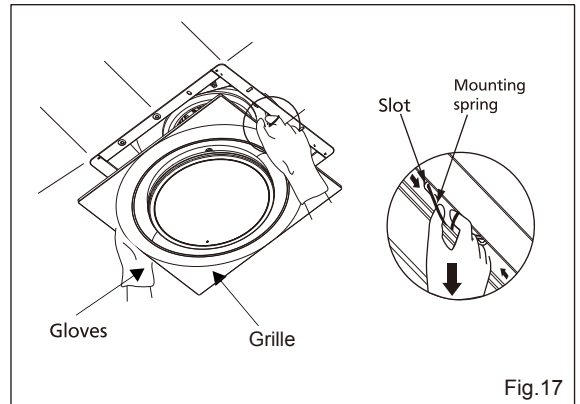
## MAINTENANCE (CLEANING)

### WARNING:

Disconnect power source before working on unit.  
Routine maintenance must be done every year.

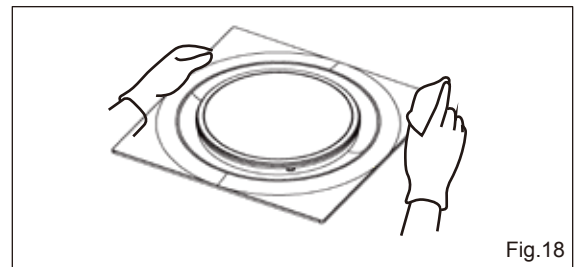
### CAUTION:

1. Never use gasoline, benzene, thinner or any other such chemicals for cleaning the ventilating fan.
2. Do not immerse motor in water when cleaning.
3. Do not soak resin parts in water over 140°F (60°C).



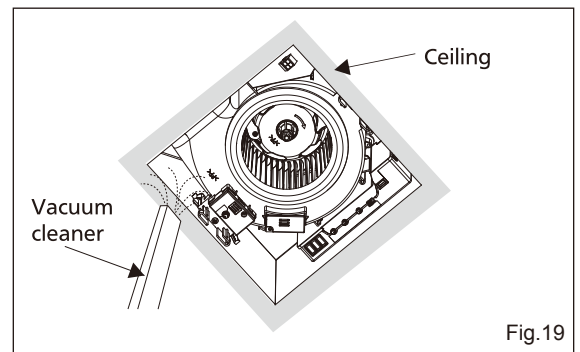
1. Remove grille. (Squeeze mounting spring and pull down carefully). (Fig.17)

2. Clean grille. (Don't put into hot water. Use non-abrasive kitchen detergent, wipe dry with clean cloth). (Fig.18)

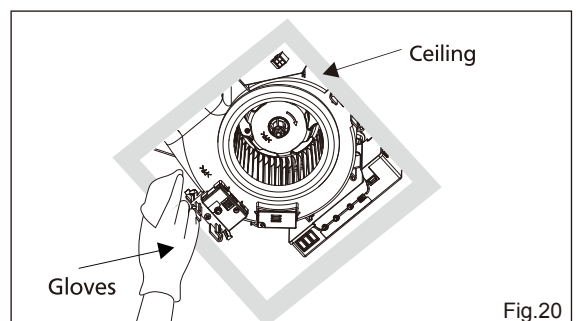


3. The grille should be dry after cleaning before reattaching to fan motor.

4. Remove dust and dirt from fan body using a vacuum cleaner. (Fig.19)



5. Using a cloth dampened with kitchen detergent, remove any dirt from fan body. Wipe dry with clean cloth. (Fig.20)



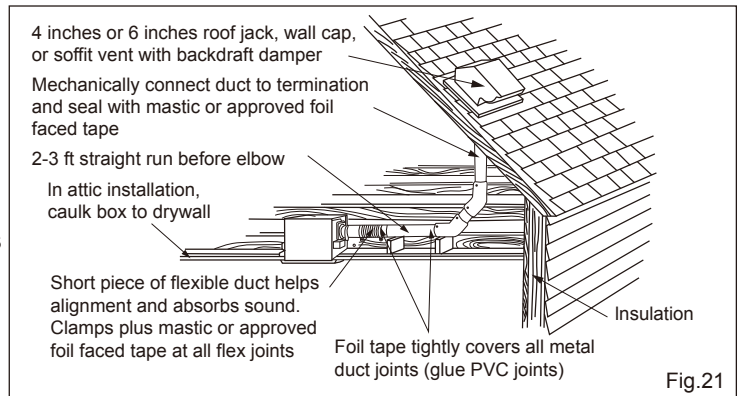
6. Reinstall grille.

## PRACTICAL GUIDE TO INSTALLATION

Properly insulate the area around the fan to minimize building heat loss and gain. (Fig.21)

Loose fill or batt insulation can be placed directly over the fan housing in the attic.

The fans and fan/light combination units do not create excessive heat that is a common problem with recessed light fixtures or some competitors' fan/light combinations. Our efficient, cool-running motors, and LED lighting unit do not create enough ambient heat to be subjected to these limitations.



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. Using the shortest, straightest duct routing possible for best performance, and avoid installing the fan with smaller ducts than recommended. Insulation around the ducts may reduce energy loss and inhibit mold growth. Fans installed with existing ducts may not achieve their rated air flow.

## SPECIFICATIONS

Model No.	Air direction	Voltage (V)	Frequency (Hz)	Duct diameter (inches)	Noise (Sones)	Power consumption (W)			Speed (rpm)	Air volume at 0.1" WG (CFM)
						Fan	light	N.light		
ABF110DHG5W ABF110DHG6W ABF110DCMH-SG5 ABF110DCMH-SG6 ABF110DHG1W	Exhaust	120	60	4", 5", 6"	<0.3	6			901	50
					<0.3	6.8			936	60
					0.3	7.8			954	70
					0.4	8.8			987	80
					0.6	11			1037	90
					0.8	12.8			1079	100
					1.0	16			1159	110
ABF110DHL5W ABF110DHL6W ABF110DHL1W	Exhaust	120	60	4", 5", 6"	<0.3	5.8	10	0.7	871	50
					<0.3	6.7	10	0.7	888	60
					<0.3	7.7	10	0.7	922	70
					0.3	8.8	10	0.7	945	80
					0.5	10.8	10	0.7	1000	90
					0.7	12.6	10	0.7	1044	100
					0.9	15.2	10	0.7	1095	110

## WARRANTY

---

**This warranty covers all defects in workmanship or materials for:**

The mechanical and electrical parts contained in this product for a period of 72 months from the date of purchase. You must keep and be able to provide your original sales receipt as proof of date of purchase. This warranty is covered to the original retail purchaser of this product only. The manufacturer will replace any mechanical or electrical part that proves defective in normal household use for a period of 72 months.

**THIS WARRANTY DOES NOT COVER:**

- Damages from improper installation.
- Damages from shipping.
- Damages from misuse, abuse, accident, alteration, lack of proper care and maintenance.
- Damages from service by persons other than a licensed electrician.
- Does not cover any labor or transportation charges related to the repair of this product.

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**Aero Pure LLC**

1006 Bankton Circle Building B

Hanahan, SC 29410

Tel: 843.377.8642

Fax: 843.377.8643

WEBSITE: [WWW.AEROPUREFANS.COM](http://WWW.AEROPUREFANS.COM)