

INSTALLATION INSTRUCTIONS

Ventilating Fan

Model No. FV-05VFM2
FV-08VFM2

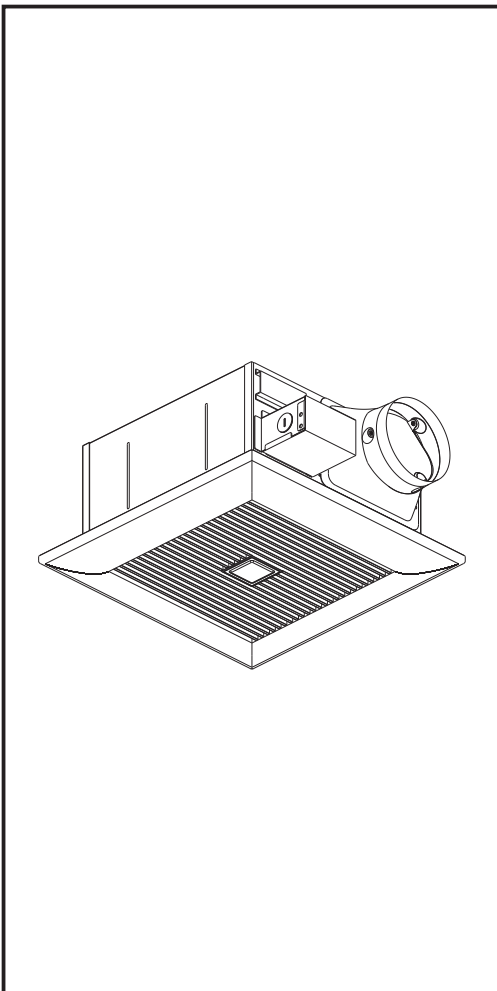


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READ AND SAVE THESE INSTRUCTIONS

Thank you very much for having purchased our Ventilating Fan.

Please read these instructions carefully before attempting to install, operate or service the Panasonic Ventilating Fan. Failure to comply with instructions could result in personal injury and/or property damage. Please retain this booklet for future reference.

GENERAL SAFETY INFORMATION

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 to 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. Not to be installed in a ceiling thermally insulated to a value greater than R40. (This is required for installation in Canada only.)
9. To reduce the risk fire or electric shock, do not use this fan with any solid-state speed control device.
10. Do not install the unit where ducts are configured as shown in Fig. A.



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.
4. Do not install this ventilating fan where interior room temperature may exceed 104 °F (40 °C).
5. Make sure that the electric service supply voltage is AC 120V, 60Hz.
6. Follow all local electrical and safety codes, as well as the National Electrical Code (NEC) and the Occupation Safety and Health Act (OSHA).
7. Always disconnect the power source before working on or near the fan, motor, junction box.
8. Protect the power cord from sharp edges, oil, grease, hot surfaces, chemicals or other objects.
9. Do not kink the power cord.
10. Provide make up air for proper ventilation.
11. A statement to the effect that when the product is to no longer be used, it must not be left in place but removed, to prevent it from possibly falling.

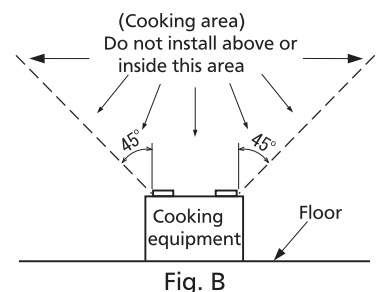


Fig. B

DESCRIPTION

These Panasonic ventilating fan models are listed by UL under UL file No. E78414.

These Panasonic ventilating fan models are UL listed for tub and shower enclosure.

These Panasonic ventilating fan models use a sirocco fan driven by a capacitor motor.

The motor is designed to have an extended service life with reduced energy consumption.

It also incorporates a thermal-cutoff for safety. The grille covering the fan body is a spring-loaded, quick remove type. A damper for preventing air counterflow is provided. The blower uses a high-capacity sirocco fan developed to reduce the noise level.






These Panasonic ventilating fan models are equipped with a motion sensor that shifts the fan to flow automatically when motion is detected. It stops the flow automatically after 20 minutes when motion is no longer detected.






UNPACKING

Unpack and carefully remove the unit from carton.

Refer to the Supplied Accessories list to verify that all parts are present.

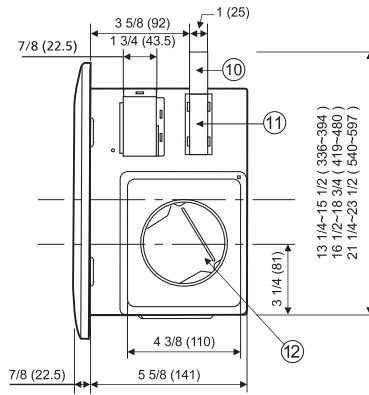
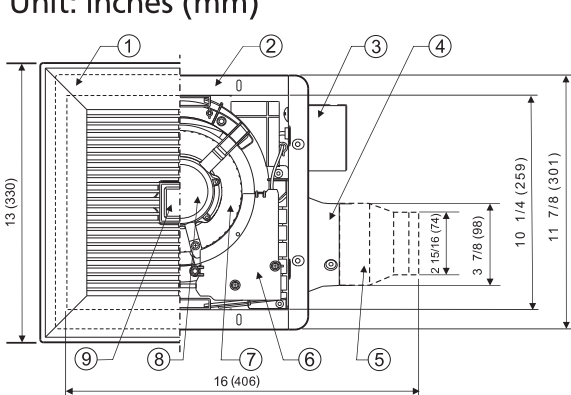
SUPPLIED ACCESSORIES

Part name	Appearance	Quantity
Grille		1
Suspension bracket I		1
Suspension bracket II		1
Suspension bracket III		1
3 inches adaptor connector (optional part)		1

Part name	Appearance	Quantity
Screw I (ST4.2X8)		2
Screw II (ST4.2X10)		2
Long screw (ST4.2X20)		6
Installation instructions		2
Warranty sheet		1

DIMENSIONS

Unit: inches (mm)

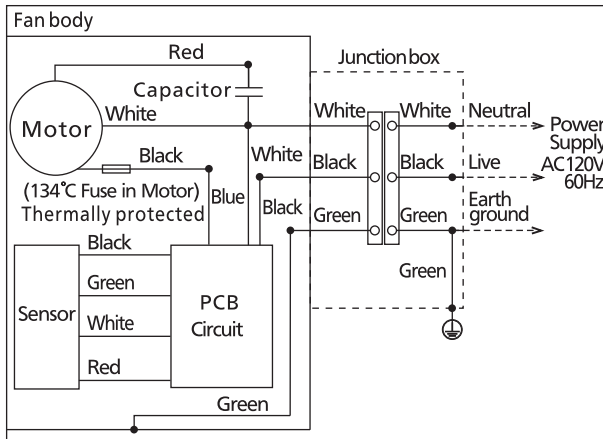


No.	Part name
1	Grille
2	Fan body
3	Junction box
4	Adaptor
5	3 inches adaptor connector
6	Main PCB assy
7	Blade
8	Motor
9	Sensor unit
10	Suspension bracket
11	Bracket cover
12	Damper

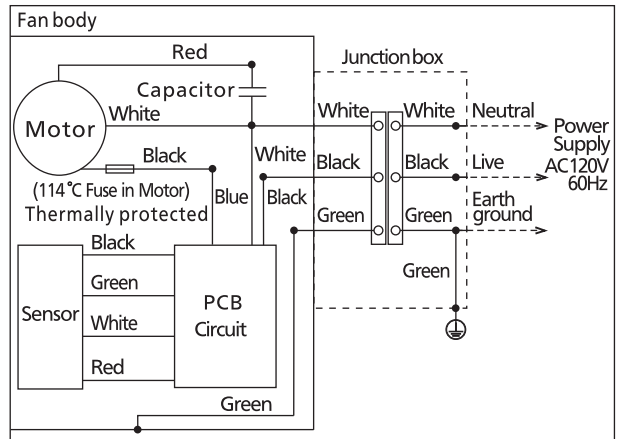
(For 16 inches on center joists, only use suspension bracket I, for 19.2 inches on center joists, only use suspension bracket III, If more than 19.2 inches on center, use suspension bracket II & III.)

WIRING DIAGRAM

FV-05VFM2

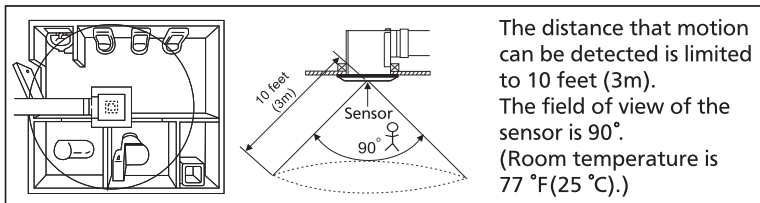


FV-08VFM2



OPERATION

■ Sensor detectible range



■ Motion

Human action	INSIDE	OUTSIDE
Fan action	When motion is detected, fan runs.	Remains running until 20 minutes has passed.

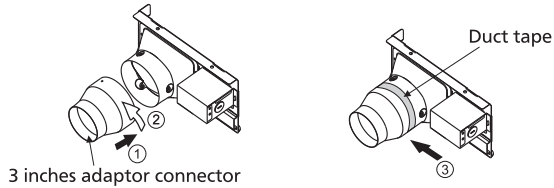
INSTALLATION I (JOIST MOUNTING - I)

IMPORTANT:

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

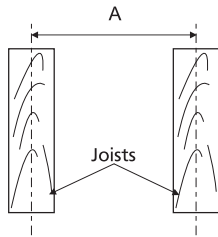


Connection method for 3 inches adaptor connector



Joist situation:

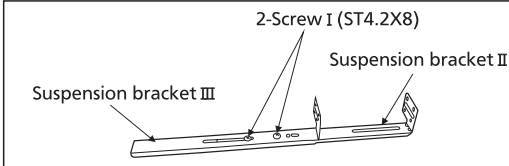
Spacing A is 12 inches (305 mm) to 24 inches (609 mm) on center joists



If the spacing A is 12 inches (305 mm) to 24 inches (609 mm) on center joists, please follow the installation step as below:

1. Insert the suspension bracket into the fan body and adaptor. (Select the suspension bracket according to Fig.1.)

If spacing A on center joists is 24 inches, connect suspension bracket II and III (C4 mark to C4 mark (according to page 9)) as show below:



2. Install the suspension bracket and the flange of fan body to joists by using long screws (ST4.2X20) according to Fig.2.

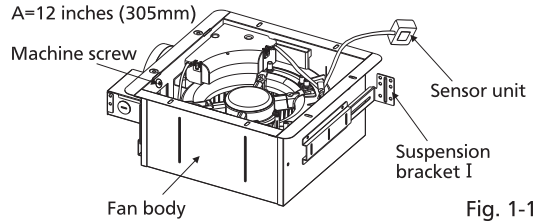


Fig. 1-1

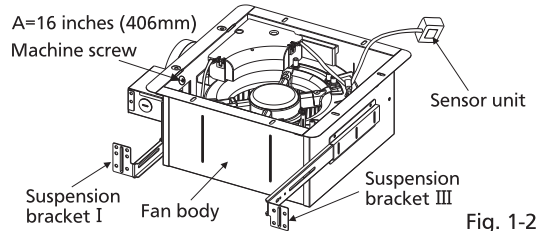


Fig. 1-2

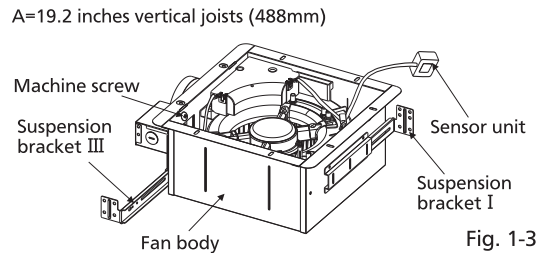


Fig. 1-3

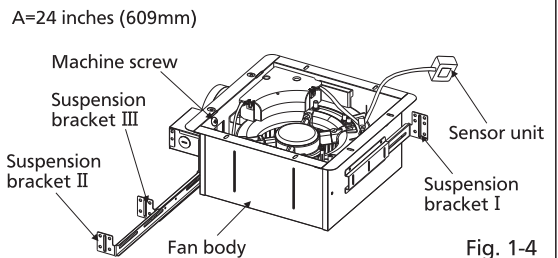


Fig. 1-4

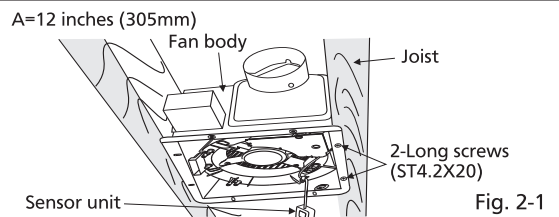


Fig. 2-1

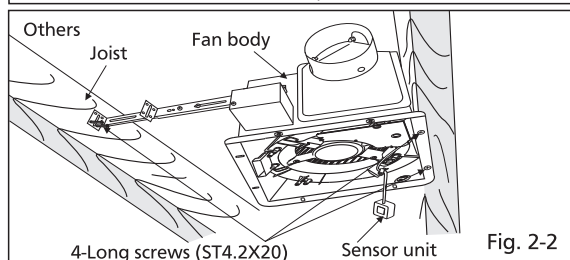
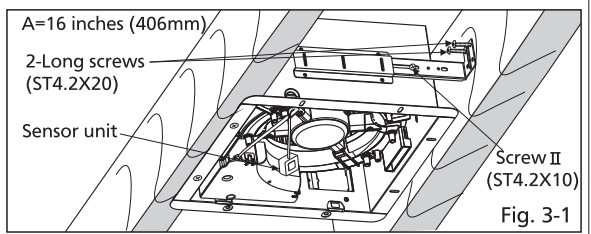


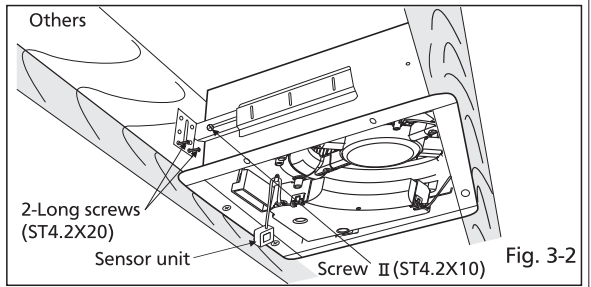
Fig. 2-2

INSTALLATION I (JOIST MOUNTING - I) CONTINUED

3. Install the suspension bracket to joists by using long screws (ST4.2X20) and secure it to the fan body by using screw II (ST4.2X10). (Fig.3)



4. Remove junction box cover and secure conduit or stress relief to junction box knock-out hole. (Fig.4)

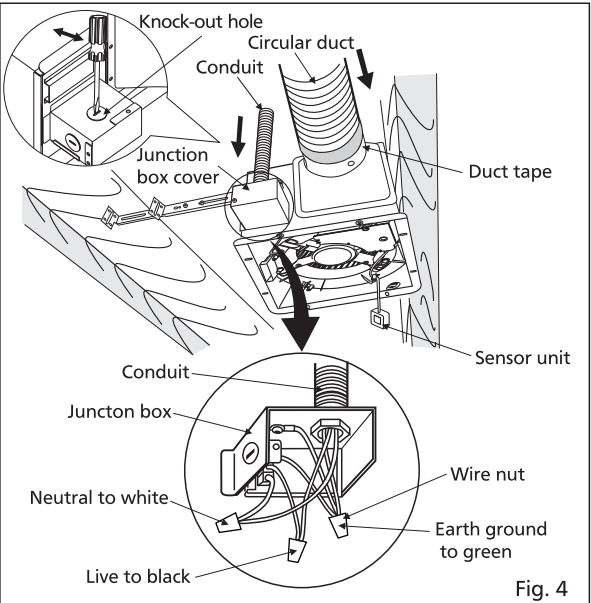


5. Refer to wiring diagram (Page 4). Follow all the local electrical safety codes as well as the National Electrical Code (NEC). Using UL approved wire nuts, connect house power wires to ventilating fan wires: black to black; white to white; green to green; Replace the junction box cover.

CAUTION:

Mount junction box cover carefully so that lead wires are not pinched.

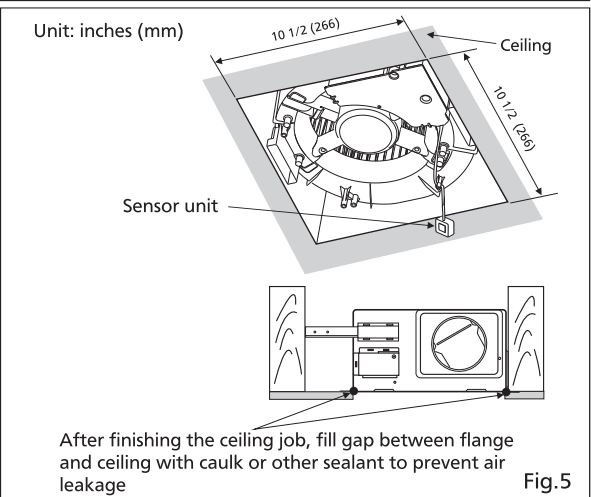
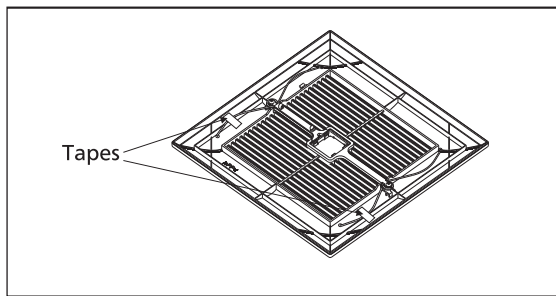
6. Install a circular duct and secure it with duct tape or clamps.



7. Finish ceiling work. Ceiling hole should be aligned with the inside edges of the flange. (Fig.5)

IMPORTANT:

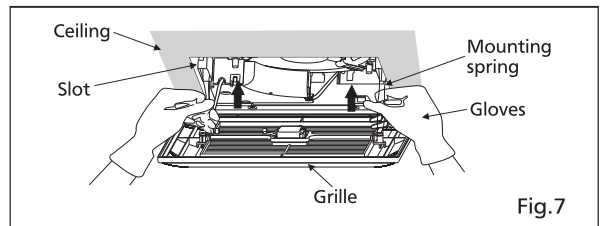
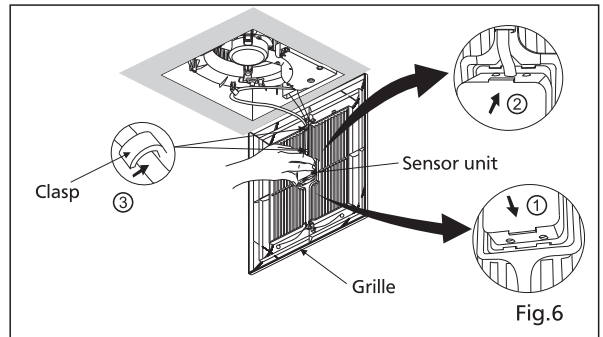
Remove the tapes from louver and springs before installation. As shown below:



INSTALLATION I (JOIST MOUNTING - I) CONTINUED

- Insert the sensor unit into the slot of the grille; Fix the lead wire of sensor unit into the clasps (2 positions). (Fig.6)
- Insert the mounting springs into the slot as shown and mount grille to fan body. (Fig.7)

CAUTION:
Mount grille carefully so that lead wire of sensor unit is not pinched.



INSTALLATION II (JOIST MOUNTING-II)

- Remove the machine screw (Fig.1-1) and keep it in a discoverable place.
- Disconnect plug connector from receptacle and remove adaptor from fan body before starting installation.
- Insert the suspension bracket into the adaptor and secure it to joists by using long screws (ST4.2X20) (Fig.8). Keep the distance B (7/8 inches (21.6mm)) for the thickness of ceiling board.

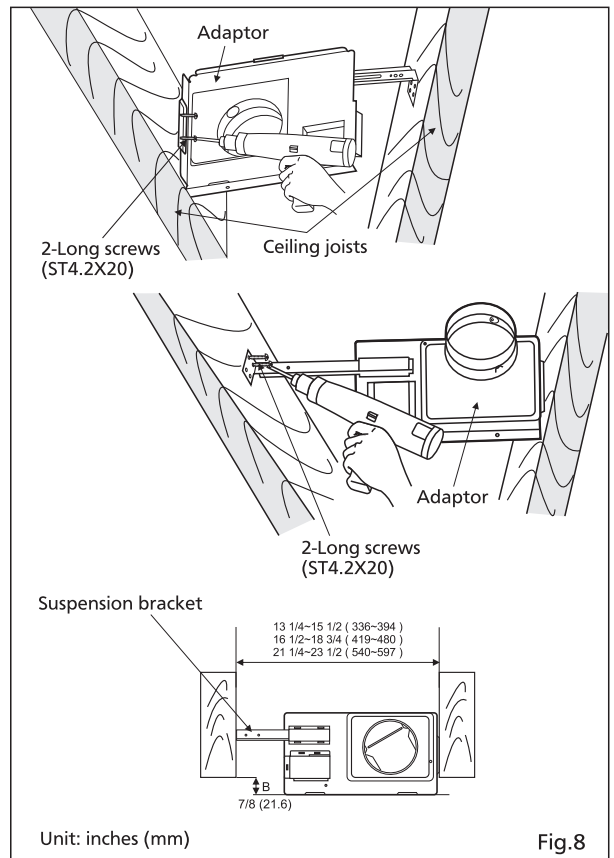
Select the suspension bracket according to spacing as show below.

Spacing between Joists inches(mm)	13 1/4~15 1/2 (336~394)	16 1/2~18 3/4 (419~480)	21 1/4~23 1/2 (540~597)
Suspension bracket	Suspension bracket I	Suspension bracket III	Suspension bracket II & III

If spacing between joists is 21 1/4 to 23 1/2 inches, connect suspension bracket II and III (C4 mark to C4 mark) according to page 5.

- Follow steps 4 to 6 of the Installation I (Page 6) to complete the duct work and wiring.

- Insert the suspension bracket into fan body. (Referring to step 1 of Installation I, page 5)



INSTALLATION II (JOIST MOUNTING-II) CONTINUED

6. Insert the fan body into joists. (Fig. 9)

IMPORTANT:

Make sure that adaptor claws are properly inserted into fan body slots.

7. Connect the machine screw. (Fig. 10)

8. Connect plug connector to receptacle. (Fig. 10)

9. Secure the suspension bracket to joists by using long screws (ST4.2X20) and secure it to fan body by using screw II (ST4.2X10). (Fig. 11)

10. Follow steps 7 to 9 of Installation I (Page 6 to 7) to complete the installation work.

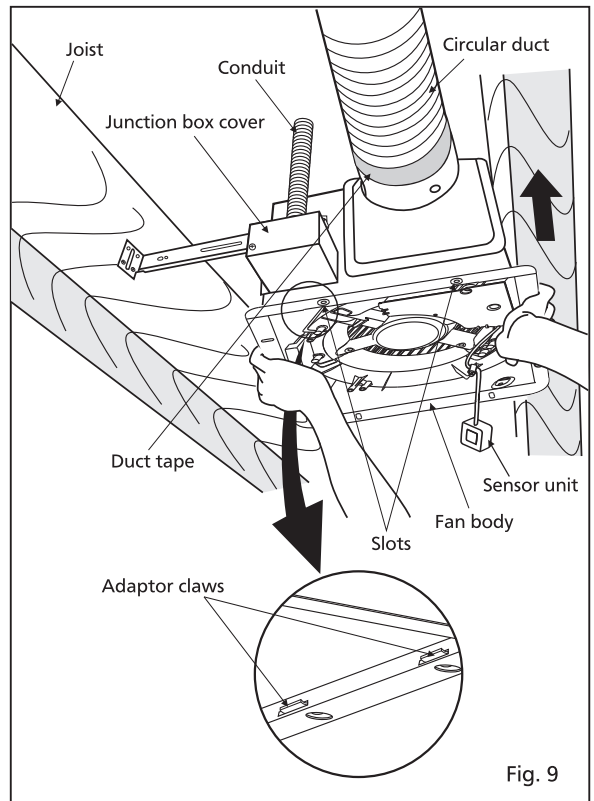


Fig. 9

When mounting body and blower separately

1. Disconnect plug connector from receptacle and loosen 4 screws (but do not remove them from blower). (Fig. 12-1)

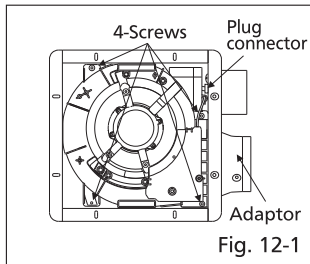


Fig. 12-1

2. Remove blower section. (Fig. 12-2)

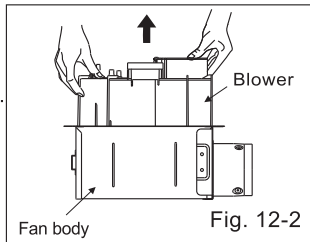


Fig. 12-2

3. Remove adaptor from fan body and secure it to joists as in Fig. 8 of page 7.

4. Insert fan body (without blower section) into joists. (Fig. 12-3)

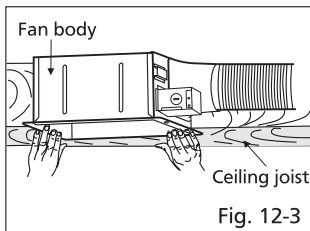


Fig. 12-3

5. Secure the adaptor to fan body by using machine screw. (Fig. 10)

6. Secure the fan body to joists by using long screw (ST4.2X20). (Fig. 11)

7. Insert the blower into the fan body and secure the blower. (Fig. 12-4)

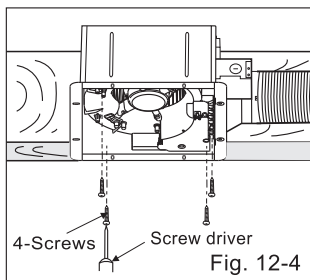


Fig. 12-4

8. Connect plug connector to receptacle. (Fig. 10)

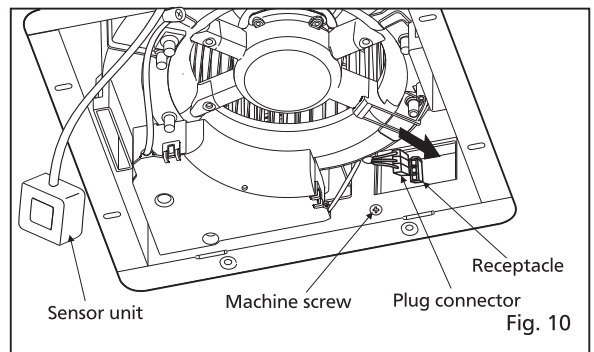


Fig. 10

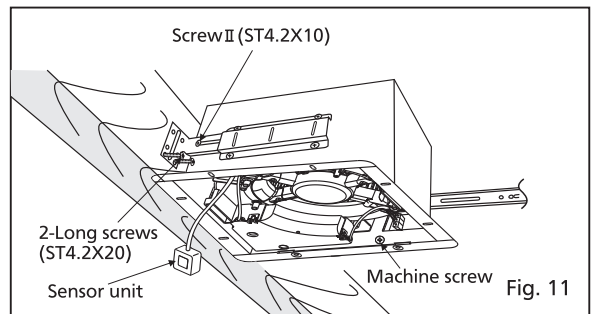
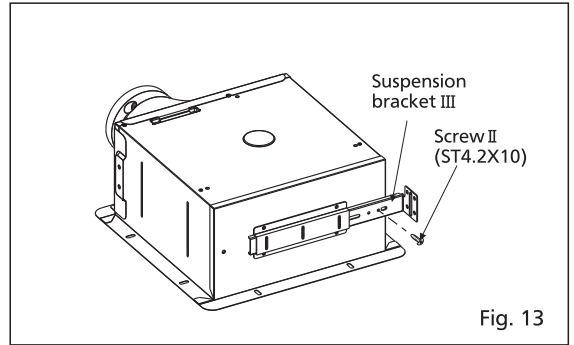
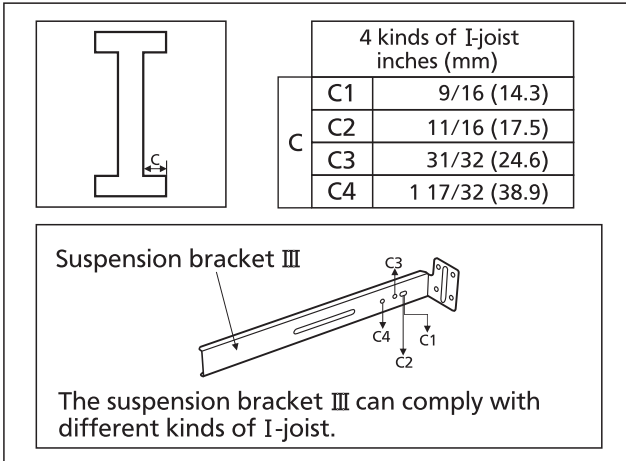
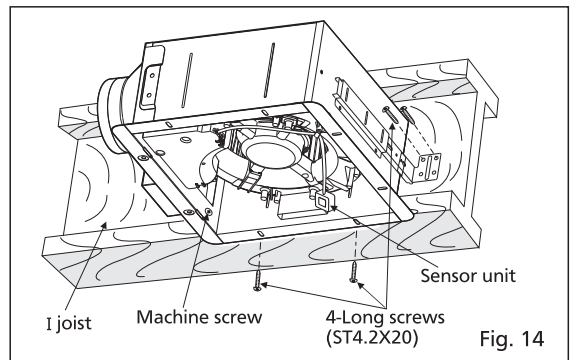


Fig. 11

INSTALLATION III (I-JOIST MOUNTING)

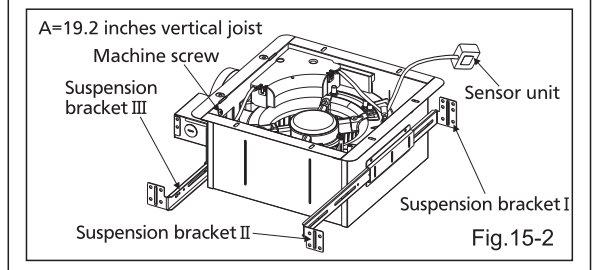
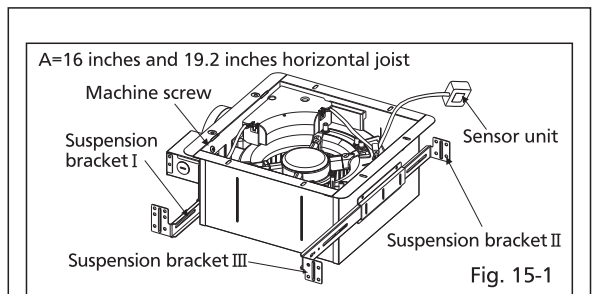
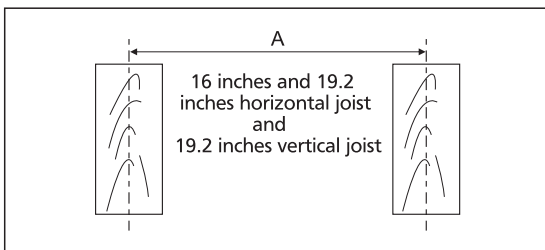


1. Connect the suspension bracket III to fan body. (Fig. 13) (Select the hole by checking I-joist size fix the screw to the frame hole.)
2. Connect the fan body to the I-joist. (Fig. 14)
3. Follow steps 4 to 9 of installation I (page 6, page 7) to complete the installation work.



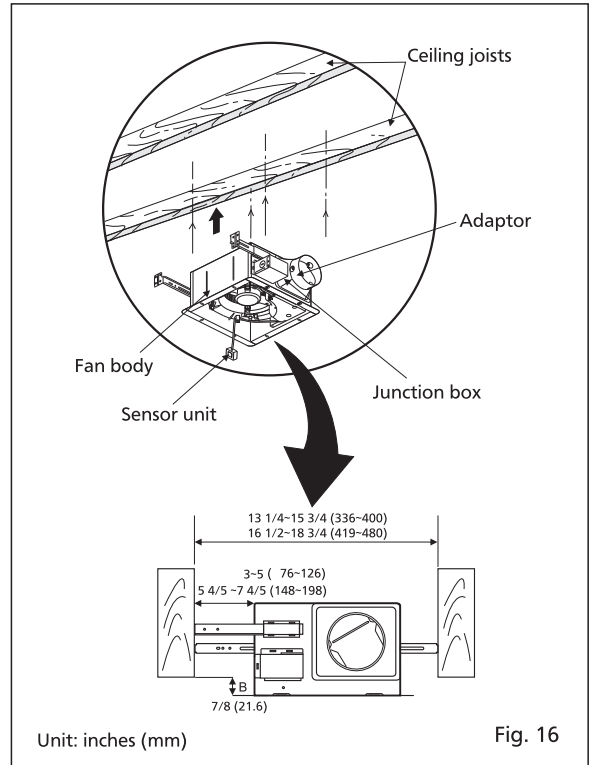
INSTALLATION IV (BETWEEN JOIST MOUNTING)

1. Insert the suspension bracket into the bracket cover of adaptor side and the back of the fan body. (Fig. 15) (Select the suspension bracket according to spacing A as show below)

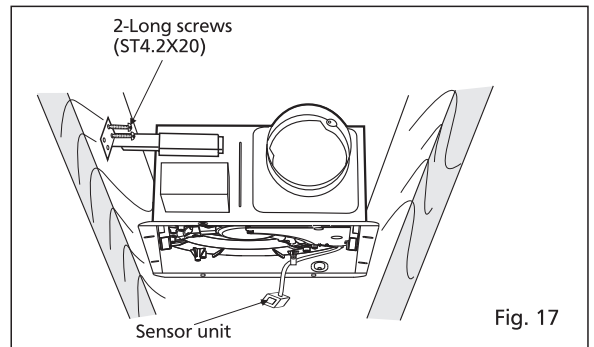


INSTALLATION IV (BETWEEN JOIST MOUNTING) CONTINUED

2. Insert the fan body between joists.
Make sure the fan body is level and square (perpendicular) with the joists. (Fig. 16)
Keep the distance B (7/8 inch (21.6mm)) for the thickness of ceiling board.

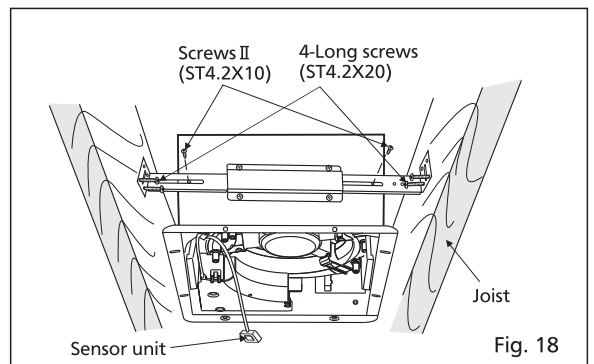


3. Secure the suspension bracket to joists by using long screws (ST4.2X20). (Fig. 17, Fig. 18)



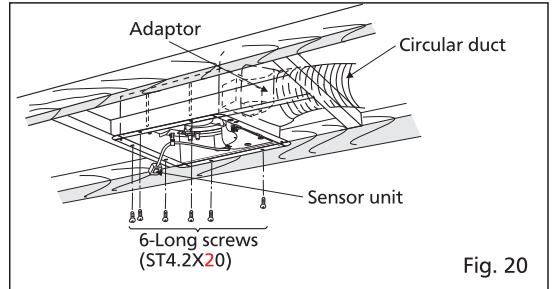
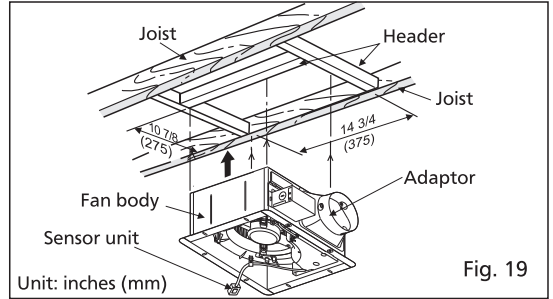
4. Secure the suspension bracket to fan body by using screws II (ST4.2X10). (Fig. 18)

5. Follow steps 4 to 9 of installation I (Page 6, page 7) to complete the installation work.



INSTALLATION V (WOODEN HEADER)

1. Install header between joists by using nails or screws.
2. Install the fan body and secure it by using long screws (ST4.2X20). (Fig.19, Fig. 20)
3. Follow steps 4 to 9 of installation I (page 6, page 7) to complete the installation work.



INSTALLATION VI (IN EXISTING CONSTRUCTION)

1. Installation in existing construction.
Installing the ventilating fan in an existing building requires an accessible area (attic or crawl space) above the planning installation location or existing ducting and wiring.
(1) To install the ventilating fan, follow the procedures described in Installation II. Take the following precautions before installation.

CAUTION:

Check area above planning installation location to be sure that:

1. Duct work can be installed and that area is sufficient for proper ventilation.
2. Wiring can be run to planning location.
3. No wiring or other obstructions will interfere with installation.

- (2) Inspect duct work and wiring before proceeding with installation.
 - (3) Plan suitable location for ventilating fan. (Next to ceiling joist.)
 - (4) Before installation, provide inspection and maintenance access at a location that will not interfere with installation work shown in installation II.
 - (5) First, remove ceiling section according to Fig. 5 of page 6.
 - (6) Install ventilating fan.
2. Installation from accessible area above fan location.
(1) Inspect duct work and wiring before proceeding with installation.
(2) Remove ceiling section according to Fig. 5 of page 6.
(3) Install ventilating fan.

MAINTENANCE (CLEANING)

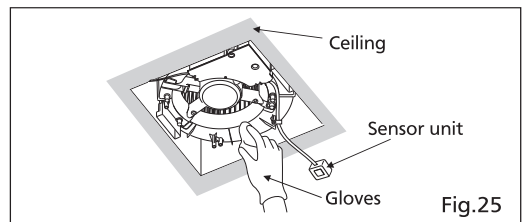
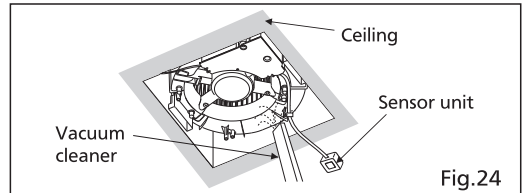
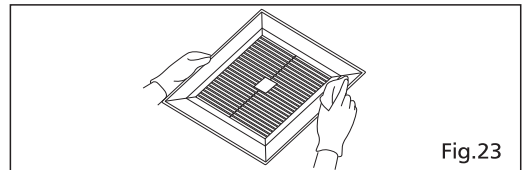
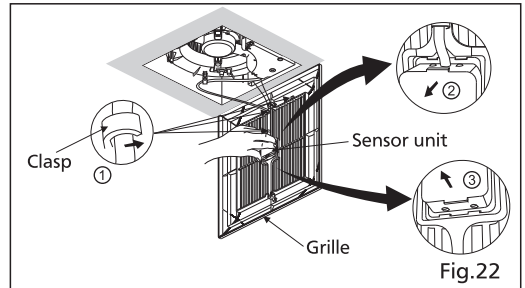
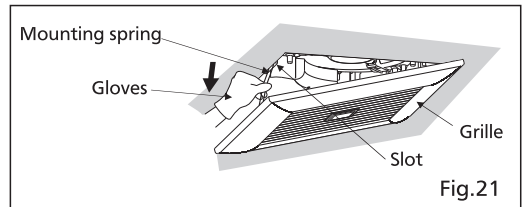
WARNING:

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).

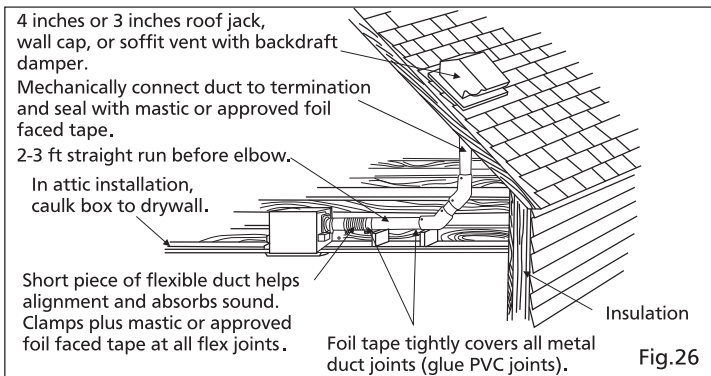
1. Remove grille pull down one mounting spring (no sensor lead passed). Remove sensor unit then pull down the other mounting spring. (Squeeze mounting spring and pull down carefully.) (Fig.21, Fig.22)
2. Clean grille. (Don't put into hot water. Use non-abrasive kitchen detergent, wipe dry with clean cloth.) (Fig. 23)
3. The grille should be dry after cleaning.
4. Remove dust and dirt from fan body using a vacuum cleaner. (Fig. 24)
5. Using a cloth dampened with kitchen detergent, remove any dirt from fan body. Wipe dry with clean cloth. (Fig. 25)
6. Replace grille.



PRACTICAL GUIDE TO INSTALLATION

Properly insulate the area around the fan to minimize building heat loss and gain. (Fig.26)

Loose fill or batt insulation can be placed directly over the fan housing in the attic. Panasonic 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 our fluorescent lamp do not create enough ambient heat to be subjected to these limitations.



SPECIFICATIONS

Model No.	Air direction	Voltage (V)	Frequency (Hz)	Duct diameter (inches)	Noise at 0.1" WG (sones)	Power consumption (W)	Speed at 0.1" WG (rpm)	Air volume at 0.1" WG (CFM)	Weight lb.(kg)
FV-05VFM2	Exhaust	120	60	3	0.5	15.8	750	50	9.1(4.1)
				4	0.4	16.0	690	50	
FV-08VFM2	Exhaust	120	60	3	0.9	25.0	870	70	9.1(4.1)
				4	0.9	25.2	770	80	

HVI Certified performance based on HVI Procedures 915,916,and 920.

PRODUCT SERVICE

Warning Concerning Removal of Covers.

The unit should be serviced by qualified technicians only.

Your product is designed and manufactured to ensure a minimum of maintenance.

Should your unit require service or parts, call Panasonic Call Center at 1-866-292-7292 (USA) or 1-800-669-5165 (Canada).

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