Panasonic®

INSTALLATION INSTRUCTIONS

Ventilating Fan

Model No.   FV-0511VF1
FV-0511VFC1

Contents

READ AND SAVE THESE INSTRUCTIONS

Thank you for purchasing this Panasonic product.
Please read these instructions carefully before attempting to install, operate or service the Panasonic product. Please carefully read the "GENERAL SAFETY INFORMATION".
Failure to comply with instructions could result in personal injury or property damage.
Please explain to users how to operate and maintain the product after installation, and this booklet should be presented to users.
Please retain this booklet for future reference.

511VF1420

GENERAL SAFETY INFORMATION

For Your Safety

To reduce the risk of injury, loss of life, electric shock, fire, malfunction, and damage to equipment or property, always observe the following safety precautions.

Explanation of symbol word panels

The following symbol word panels are used to classify and describe the level of hazard, injury, and property damage caused when the denotation is disregarded and improper use is performed.

⚠ WARNING	Denotes a potential hazard that could result in serious injury or death.
⚠ CAUTION	Denotes a hazard that could result in minor injury.
NOTICE	Denotes a hazard that could result in property damage.

The following symbols are used to classify and describe the type of instructions to be observed.

❗	This symbol is used to alert users to a specific operating procedure that must be followed in order to operate the unit safely.
🚫	This symbol is used to alert users to a specific operating procedure that must not be performed.
🛠	This symbol is used to alert users not to disassemble the equipment.
⏚	This symbol is used to alert users to make sure of grounding when using the equipment with the grounding terminal.

⚠ WARNING

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

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

❗ 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.

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

❗ 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, Refrigerating and Air-Conditioning Engineers (ASHRAE) and the local code authorities.

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

❗ Ducted exhaust fans must always be vented to the outdoors.

❗ If this unit is to be installed over a tub or shower, it must be marked as appropriate for the application and connected to a GFCI (Ground Fault Circuit Interrupter) - protected branch circuit.

⚠ WARNING

⊕ These models are UL listed for tub and shower enclosures.

⊘ Do not disassemble the unit for reconstruction. It may cause fire or electric shock.

⊕ If this product is to no longer be used, it must be removed from ceiling to prevent it from falling.

⊕ The ceiling joist must be able to withstand a static load of at least five times the weight of the product.

⊘ Do not install with a method which is not approved in the instructions.

⊘ Do not use this fan with any solid-state speed control device. Solid state controls may cause harmonic distortion which can cause a humming noise in the motor.

⏚ This product must be properly grounded.

⚠ CAUTION

⊘ Do not install this ventilating fan in a location where the interior room temperature may exceed 104 °F (40 °C).

⊕ Make sure that the electric service supply voltage is AC 120 V, 60 Hz.

⊕ Follow all local electrical and safety codes, as well as the National Electrical Code (NEC) and the Occupational Safety and Health Administration (OSHA).

⊕ Always disconnect the power source before working on or near the fan, motor or junction box.

⊕ Protect the supply wiring from sharp edges, oil, grease, hot surfaces, chemicals or other objects.

⊘ Do not kink the supply wiring.

⊘ For general ventilating use only. Do not use to exhaust hazardous or explosive materials and vapors.

⊘ Not for use in cooking area. (Fig. A)

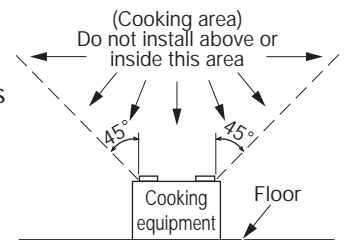⊕ The special-purpose or dedicated parts, such as mounting fixtures, must be used if such parts are provided.

(Cooking area)
Do not install above or inside this area
45°　45°
Cooking equipment　Floor

Fig. A

GENERAL SAFETY INFORMATION CONTINUED

NOTICE

❗ Provide make up air for proper ventilation.

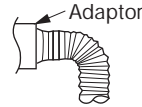🚫 Do not install the unit where ducts are configured as shown in below.

Excessive bending   Successive bending   Squeezed duct

Adaptor

Bend close to duct adaptor

🚫 Do not connect multiple units in parallel. If two or more units are connected to one switch in parallel, the units may not function.

DESCRIPTION

These products are listed by UL under UL file No. E78414.

These products use a sirocco fan driven by a DC motor powered by an integral transformer. The motor is designed to have long operating life, high dynamic response, higher speed ranges and energy savings. The grille covering the fan body is a spring-attached, quick removal type. A damper for preventing air counter flow is provided. The blower uses a high-capacity sirocco fan developed to reduce the noise level.
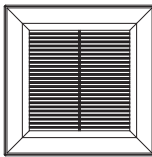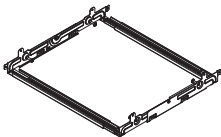
(FV-0511VFC1 only)
This Panasonic ventilating fan model is equipped with a humidity sensor that turns the fan on automatically when humidity increases rapidly, or when humidity rises above a 30 % ~ 80 % relative humidity set-point.

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
Flex-Z Fast™ bracket (with 4 tapping screws -ST4.2X20)		1
Self-drilling screw		4
Machine screw (M4X8)		1

Part name	Appearance	Quantity
Warranty sheet		1
Installation instructions		1
Quick Start Guide		1
3 inch duct reducer (optional part)		1

DIMENSIONS

Unit: inches (mm)

FV-0511VFC1

FV-0511VF1

1 1/2 (37)
1 (22.5)   2 7/8 (71.4)
13 (330)
2 3/4 (69.7)
10 3/4 (271)
5 5/8 (143)

12 1/8 (307)
5 5/8 (140)
3 7/8 (96.7)

13 (330)
10 3/8 (263)   5 1/4 (133)
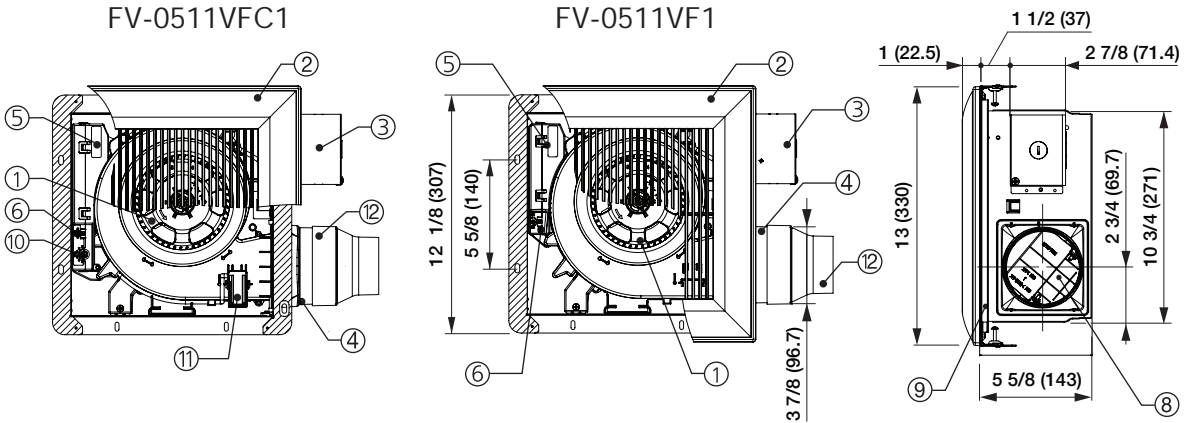
No.	Part name	No.	Part name
①	Blade	⑦	Fan body
②	Grille	⑧	Damper
③	Junction box	⑨	Flex-Z Fast™ bracket
④	Adaptor	⑩	Activation humidity setting dial (FV-0511VFC1 only)
⑤	PCB box	⑪	Condensation sensor (FV-0511VFC1 only)
⑥	Pick-A-Flow switch	⑫	Duct reducer (optional part)

WIRING DIAGRAM

FV-0511VFC1

Fan body   Junction box
Main control circuit
                                        Black   Power switch   Live (Fan)
DC motor   AC 120 V 60 Hz
                                        White   Neutral   (Power supply)
                    Main control circuit Red   Control switch
                                        Red   NOTICE
Condensation sensor   Do NOT connect the red signal wires to a live power supply (AC 120 V 60 Hz), it will damage the product. Please use an optional switch to connect the red signal wires.
                                        Green   (Ground wire)

FV-0511VF1

Fan body   Junction box
Main control circuit
                                        Black   Power switch   Live (Fan)
                    Main control circuit   AC 120 V 60 Hz
DC motor   White   Neutral   (Power supply)

                                        Green   (Ground wire)

FEATURES

These products employ innovative, state-of-the-art technologies that provide a number of customizable unique features that lead to improved indoor air quality. Please read this manual first in order to realize the benefits of this customizable, modular fan.

Optimum ventilation performance:

Duct length, elbows and other factors increase static pressure which can hinder the performance of most ventilation fans. These products utilize SmartFlow microchip technology that monitors the static pressure in the system and speeds up or slows down the rpm of the fan depending upon the amount of resistance within the ducts. This feature allows the fan to perform as rated and avoid potential installation issues.

Outstanding energy savings:

These products are built using DC motor technology. The DC motor is 30 % ~ 70 % more energy efficient than the minimum ENERGY STAR requirements.

[For model : FV-0511VF1 and FV-0511VFC1]

Pick-A-Flow Feature:

This product comes with Pick-A-Flow speed options.
The Pick-A-Flow switch on the face of the product allows the option to choose 50, 80 or 110 CFM. This product can run continuously or intermittently, depending upon the needs of the owner.
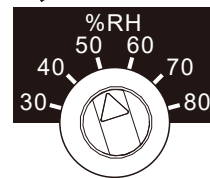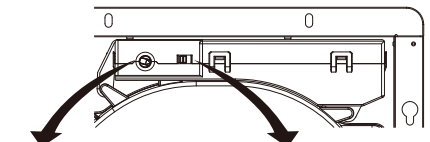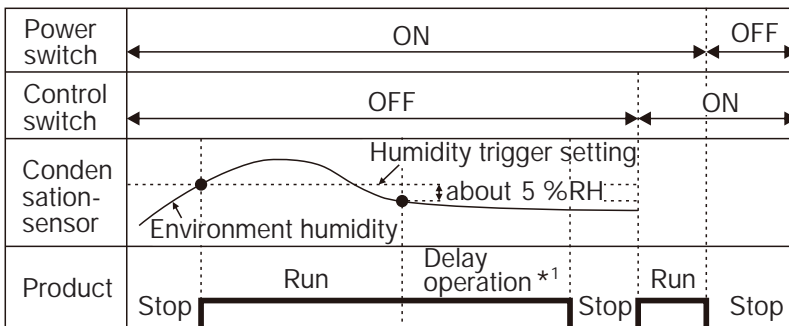

Pick-A-Flow switch

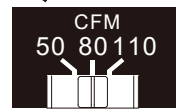| Air volume option (CFM)			Factory setting
50	80	110	80 CFM
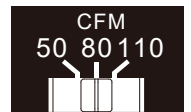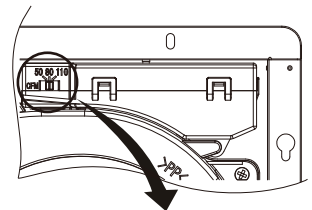
[For model : FV-0511VFC1]

The airflow can be set with the Pick-A-Flow Switch, and humidity triggers can be set by adjusting the humidity setting dial. See visual operation chart below.

Activation humidity setting dial

Pick-A-Flow switch

| Power switch	ON		OFF
Control switch	OFF		ON
Condensation-sensor	Humidity trigger setting about 5 %RH / Environment humidity		
Product	Stop Run Delay operation *1	Stop Run	Stop

*1 The product will continue to run for about 20 minutes after the sensor detects that the humidity is ~5 % RH lower than the humidity setting before stopping.

Note:

1. The power switch should be left on at all times.

2. The product will also run when the humidity rises rapidly but does not reach the humidity trigger setting, and then stop after the time delay.

3. The activation humidity settings on the dial are continuous from 30 %RH ~ 80 %RH.

4. The humidity detected by the sensor may differ from the value on your hygrometer.

5. The product may cycle on and off if the humidity is constantly near the trigger point. This can be addressed by raising the humidity trigger setting on the dial.

6. The fan will run for 20 minutes when power switch is first turned on, regardless of the humidity sensor or control switch settings. After 20 minutes, the fan will return to sensor mode.

INSTALLATION (RETROFIT)

IMPORTANT:
Remove the tape placed on the damper and adaptor before installation.
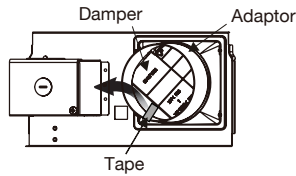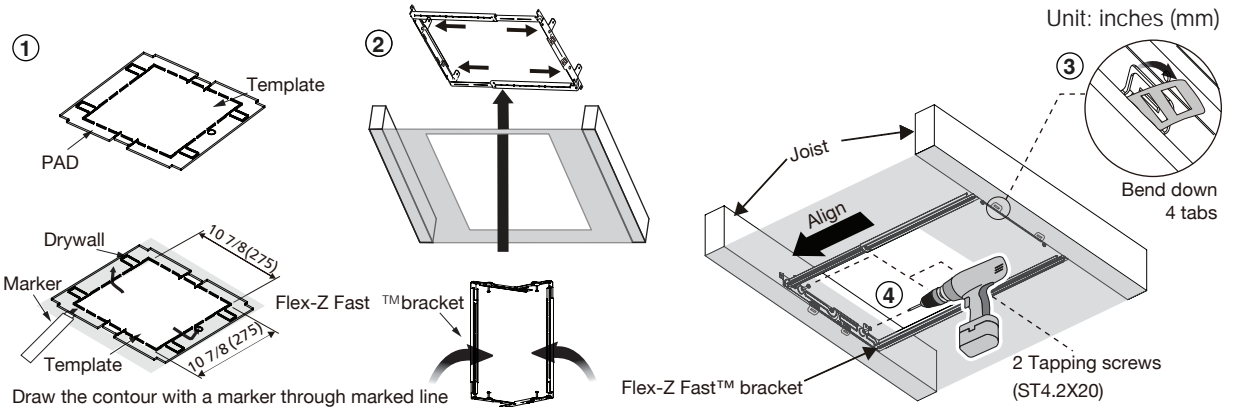
Damper   Adaptor

Tape

⚠ WARNING

🛑 Disconnect power supply before installing the unit.

🛑 Please wear gloves to protect hands during the installation.

## 1 Install Flex-Z Fast™ bracket

The Flex-Z Fast™ bracket position can be adjusted from 16" to 24" between joists.

① Template
PAD

②

③
Unit: inches (mm)
Joist
Bend down 4 tabs
Align
④
Flex-Z Fast™ bracket
2 Tapping screws (ST4.2X20)

Drywall
Marker
10 7/8(275)
Flex-Z Fast ™bracket
Template
10 7/8 (275)

Draw the contour with a marker through marked line

① Remove the existing fan and use housing masking template to mark the ceiling opening and cut the ceiling along the marked line.

② Insert the Flex-Z Fast™ bracket into the opening and extend.

③ Bend down 4 tabs and align bracket to the joist.

④ Install bracket to joist using 2-preinstalled tapping screws.

2 Tapping screw (ST4.2X20)
⑤ Extend
⑥
Joist
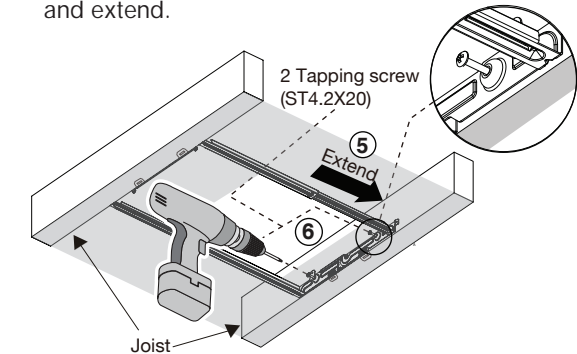
⑤ Extend bracket to the other joist.

⑥ Install bracket to joist using 2-preinstalled tapping screws.

2 Install circular exhaust duct

Conduit   Circular exhaust duct   Flex-Z Fast™ bracket
Joist
②
Adaptor
①   Junction box cover
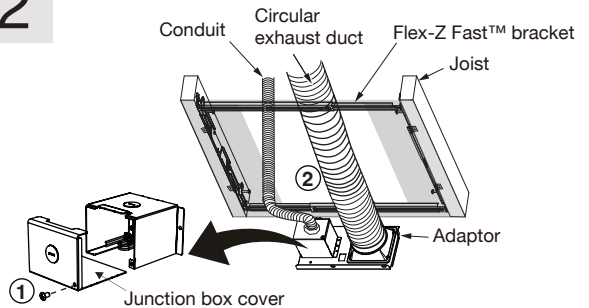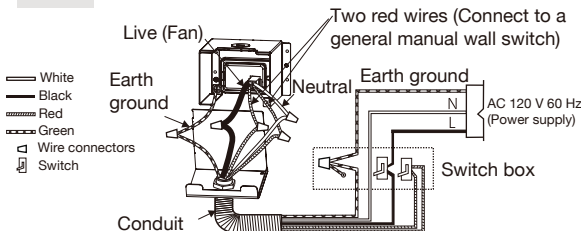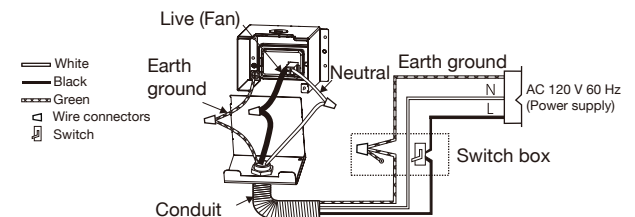
① Remove screw from junction box cover and secure conduit or stress relief to junction box knock-out hole.

② Install the circular exhaust duct and secure it with clamps or ties and seal it with mastic or approved foil tape. A 3 or 4 inch circular duct is needed to connect to the relevant part of the adaptor.

3 Connect wires

[FV-0511VFC1]

Live (Fan)
Two red wires (Connect to a general manual wall switch)
Earth ground
Neutral   Earth ground
— White
— Black
▬ Red
▭▭ Green
▱ Wire connectors
⌥ Switch
N
L
AC 120 V 60 Hz (Power supply)
Switch box
Conduit

[FV-0511VF1]

Live (Fan)
Earth ground
Neutral   Earth ground
— White
— Black
▭▭ Green
▱ Wire connectors
⌥ Switch
N
L
AC 120 V 60 Hz (Power supply)
Switch box
Conduit

① Refer to WIRING DIAGRAM. (Page 5)
Follow all the local electrical safety codes as well as the National Electrical Code (NEC). Use UL approved wire connectors to connect fan wires. After connecting wires, replace junction box cover.
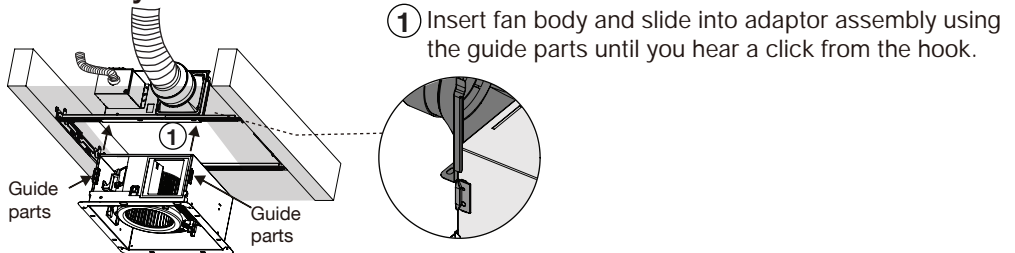
4 Install adaptor

Conduit

Circular exhaust duct

Drywall

2 Self-drilling screws
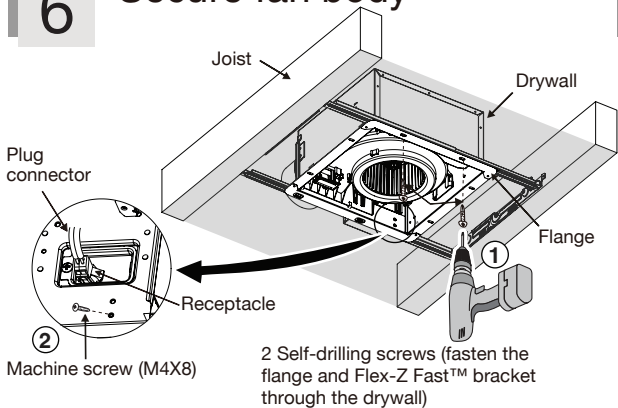
Self-drilling screw
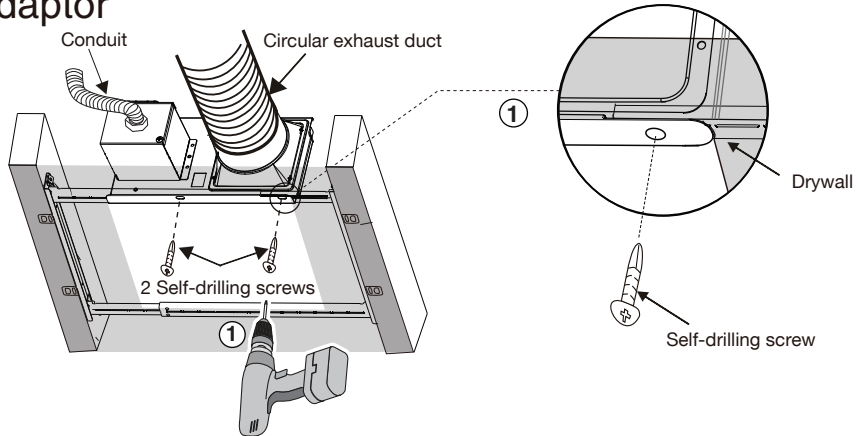
(1) Install the adaptor to the Flex-Z Fast™ bracket by using 2 self-drilling screws.

5 Insert fan body

(1) Insert fan body and slide into adaptor assembly using the guide parts until you hear a click from the hook.

Guide parts

Guide parts

6 Secure fan body

Joist

Drywall

Plug connector

Receptacle

(2) Machine screw (M4X8)

Flange

2 Self-drilling screws (fasten the flange and Flex-Z Fast™ bracket through the drywall)
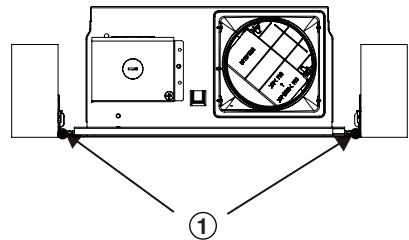
(1) Secure the fan body to Flex-Z Fast™ bracket using 2 self-drilling screws.

(2) Plug connector into receptacle and secure fan body to adaptor using the machine screw (M4X8).

⚠ CAUTION

❗ Please take care when installing the machine screw (Step 6) to avoid cross threading and to ensure that the screw does not strip or come in contact with the Flex-Z Fast™ bracket.

7 Sealing

(1) Once fan body is mounted and secure, fill gap between flange and ceiling with caulk or other sealant to prevent air leakage.

(2) Adjust Pick-A-Flow switch. (Refer to explanation under FEATURES). (Page 6)
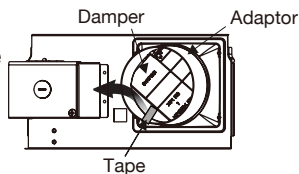
8 Install grille

Drywall

Mounting spring

Grille

Gloves
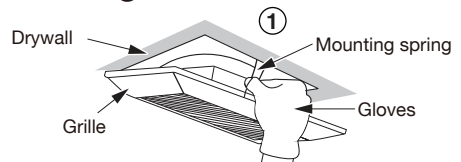
(1) Insert the mounting springs into the slot as shown to mount grille to fan body.

INSTALLATION (NEW CONSTRUCTION)

IMPORTANT:
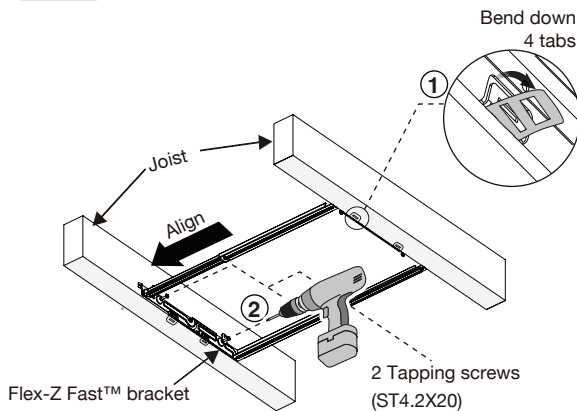Please remove the tape placed on the damper and adaptor before installation.

Damper   Adaptor

Tape

⚠ WARNING

❗ Disconnect power supply before installing the unit.

❗ Please wear gloves to protect hands during the installation.

❗ Ensure the junction box cover encloses all the wires and is completely flush before locking in place with the attached screw.

1 Install Flex-Z Fast™ bracket
The Flex-Z Fast™ bracket position can be adjusted from 16" to 24" between joists.

Bend down 4 tabs

Joist

Align

Flex-Z Fast™ bracket

2 Tapping screws (ST4.2X20)

Joist

2 Tapping screws (ST4.2X20)

Extend

① Bend down 4 tabs and align bracket to the joist.

② Install bracket to joist using 2-preinstalled tapping screws.
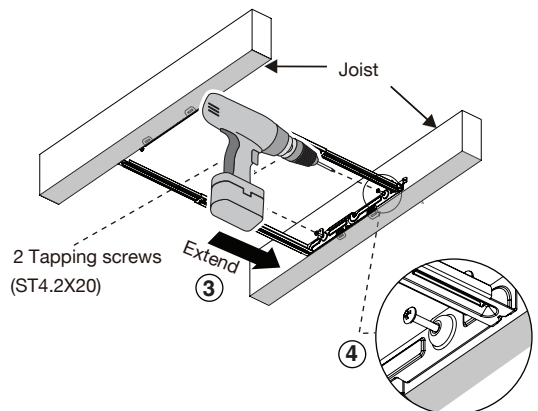
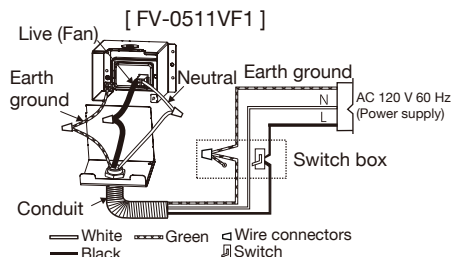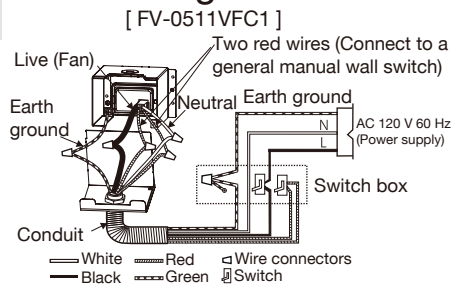**③** Extend bracket to the other joist.

④ Install bracket to joist using 2-preinstalled tapping screws.

2 Install circular exhaust duct

Conduit

Circular exhaust duct

Junction box cover

2 Self-drilling screws
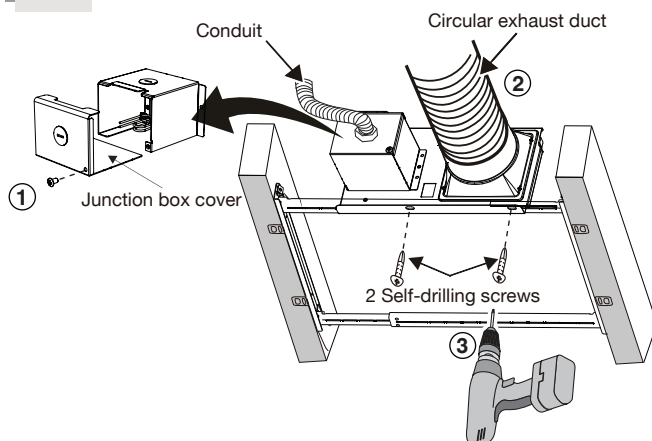
① Remove screw from junction box cover and secure conduit or stress relief to junction box knock-out hole.

② Install the circular exhaust duct and secure it with clamps or ties and seal it with mastic or approved foil tape. A 3 or 4 inch circular duct is needed to connect to the relevant part of the adaptor.

③ Install the adaptor to Flex-Z Fast™ bracket by using 2 self-drilling screws.

3 Connecting wires

[FV-0511VFC1]

Live (Fan)
Two red wires (Connect to a general manual wall switch)
Earth ground
Neutral Earth ground
N
L
AC 120 V 60 Hz (Power supply)
Switch box
Conduit

─ White   ⚏ Red   ▭ Wire connectors
─ Black   ⚏ Green   ⏻ Switch

[FV-0511VF1]

Live (Fan)
Earth ground
Neutral Earth ground
N
L
AC 120 V 60 Hz (Power supply)
Switch box
Conduit

─ White   ⚏ Green   ▭ Wire connectors
─ Black   ⏻ Switch

① Refer to WIRING DIAGRAM. (Page 5) Follow all the local electrical safety codes as well as the National Electrical Code (NEC). Use UL approved wire connectors to connect fan wires. After connecting wires, replace junction box cover.
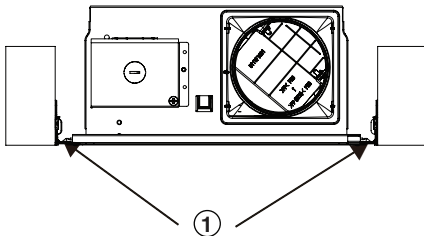
4 Insert fan body
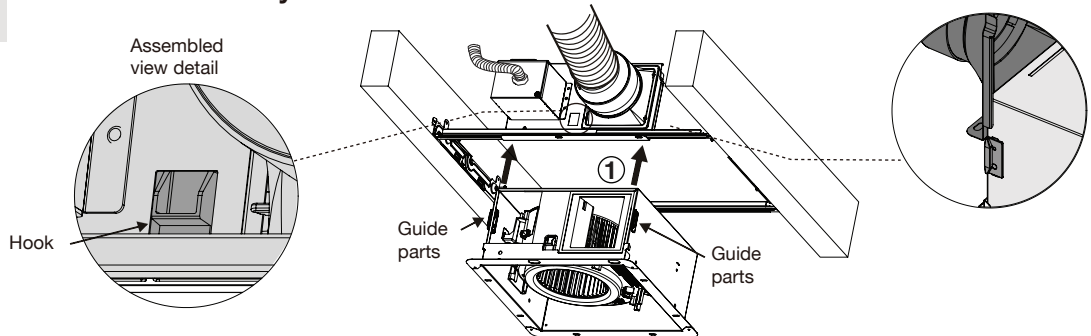
Assembled view detail

Hook

Guide parts

Guide parts

(1) Insert fan body and slide into adaptor assembly using the guide parts until you hear a click from the hook.

5 Secure fan body

Joist

Plug connector

Receptacle

(2) Machine screw (M4X8)
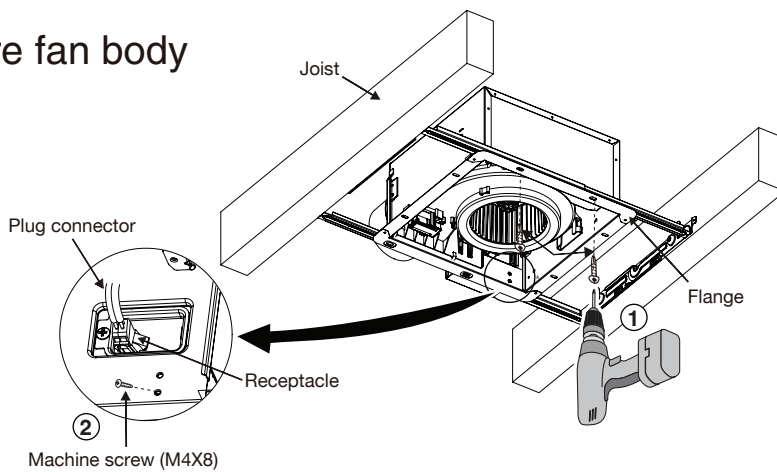
(1) Flange

(1) When the flange overlaps the Flex-Z Fast™ bracket, secure it using 2 self-drilling screws.

(2) Plug connector into receptacle and secure the fan body to adaptor using the machine screw (M4X8).

6 Sealing

(1)

(1) Once fan body is mounted and secure, fill gap between flange and ceiling with caulk or other sealant to prevent air leakage.

(2) Adjust Pick-A-Flow switch. (Refer to explanation under FEATURES). (Page 6)

7 Install grille

Drywall

(1) Mounting spring
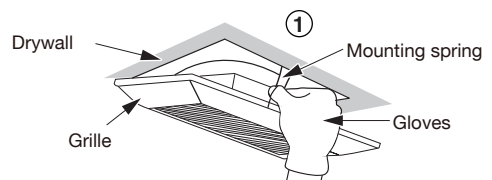
Grille

Gloves

(1) Insert the mounting springs into the slot as shown to mount grille to fan body.

MAINTENANCE (CLEANING)

⚠ WARNING

❗ Disconnect power supply before working on unit.

⚠ CAUTION

❗ Routine maintenance must be done every year. Please wear gloves during the cleaning work.

🚫 Never use gasoline, benzene, thinner or any other such chemicals for cleaning the ventilating fan.

🚫 Do not immerse motor in water when cleaning. Do not soak resin parts in water over 140 °F (60 °C).

🚫 Do not use cleaning sparys, solvents, or water on or near the sensor.

1 Remove grille

Mounting spring
Gloves
① Slot
Grille

Drywall
Mounting spring
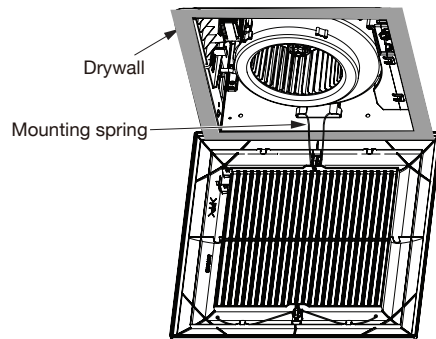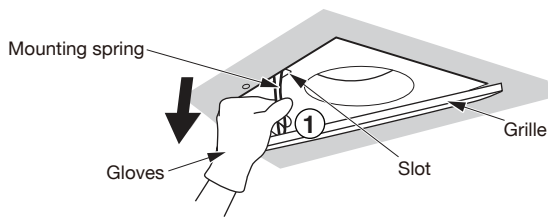
① Remove grille by pulling down one mounting spring, then pull the other.

2 Maintenance of unit

Gloves

Drywall
Vacuum cleaner

Drywall
Gloves

① ② ③
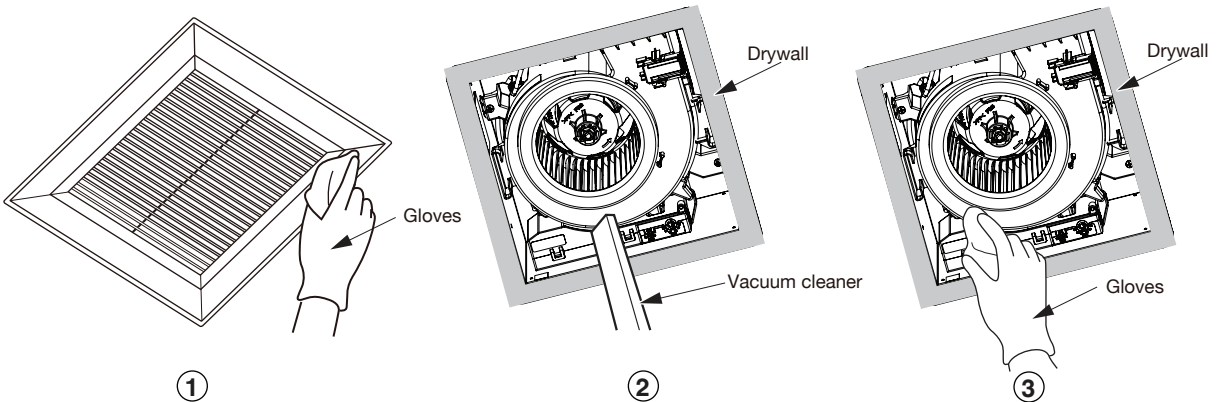
NOTE : The grille should be dry after cleaning.

① Clean grille. (Don't put into hot water. Use non-abrasive kitchen detergent, wipe dry with clean cloth.)

② Remove dust and dirt from fan body using a vacuum cleaner.

③ Using a cloth dampened with kitchen detergent, remove any dirt from fan body. Wipe dry with clean cloth. Reinstall grille after finishing.

PRACTICAL GUIDE TO INSTALLATION

Properly insulate the area around the fan to minimize building heat loss and gain. Loose fill or batt insulation can be placed directly over the fan housing in the attic.

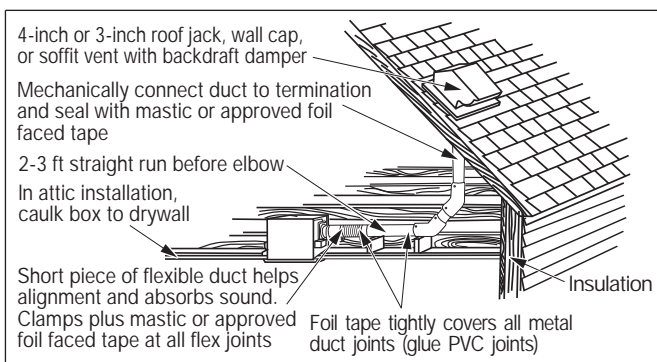Panasonic fans do not create excessive heat, which is a common problem with recessed light fixtures and some competitors' fan/light combinations. Our efficient, cool - running motors do not create enough ambient heat to be subjected to these limitations. The ducting from this fan to the outside of the building has a strong effect on the air flow, noise and energy use of the fan. 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.

4-inch or 3-inch roof jack, wall cap, or soffit vent with backdraft damper

Mechanically connect duct to termination and seal with mastic or approved foil faced tape

2-3 ft straight run before elbow

In attic installation, caulk box to drywall

Short piece of flexible duct helps alignment and absorbs sound. Clamps plus mastic or approved foil faced tape at all flex joints

Foil tape tightly covers all metal duct joints (glue PVC joints)

Insulation

SPECIFICATIONS

Model No.	Air direction	Voltage (V)	Frequency (Hz)	Duct diameter (inches)	Air volume at 0.1"WG (CFM)	Noise (sones)	Speed (rpm)	Power (W)	Weight lb.(kg)
FV-0511VF1 FV-0511VFC1	Exhaust	120	60	4	50	<0.3	756	4.2	9.5(4.3)
					80	<0.3	821	6.2	
					110	0.8	957	11.0	

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 1-866-292-7299 (USA).