Panasonic®

INSTALLATION INSTRUCTIONS

Ventilating Fan

Model No. FV-0511VFL1
FV-0511VFLK1

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.

511FL1420

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.

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

This product is not to be installed in a ceiling thermally insulated to a value greater than R60.

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

If this product is no longer to be used, it must be removed from the 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

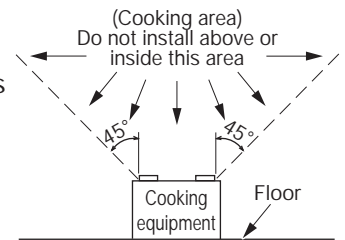45° 45°

Cooking equipment   Floor

Fig. A

NOTICE

Provide make up air for proper ventilation.

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

Adaptor

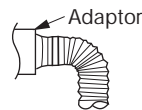Excessive bending   Successive bending   Squeezed duct

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. The lighting unit is an energy-saving LED lighting device that uses one 10 W LED lamp and produces almost the same illumination as a standard 40 W incandescent lamp. Night light feature consumes around 0.1 to 0.4 W.

FCC Note: This equipment has been tested and found to comply with the limits for a Class B digital device, pursuant to Part 15 of the FCC Rules. These limits are designed to provide reasonable protection against harmful interference in a residential installation. This equipment generates, uses and can radiate radio frequency energy and, if not installed and used in accordance with the instructions, may cause harmful interference to radio communications. However, there is no guarantee that interference will not occur in a particular installation. If this equipment does cause harmful interference to radio or television reception, which can be determined by turning this product on and off, the user is encouraged to try to correct the interference by one of the following measures:

- Reorient or relocate the receiving antenna.
- Increase the separation between the equipment and receiver.
- Connect equipment into outlet on a circuit different from that to which the receiver is connected.
- Consult the dealer or an experienced radio/TV technician for help.

Warning: This equipment must be installed by qualified person in accordance with the provided installation instructions and all applicable codes and standards. Also, any changes or modifications not expressly approved by the party responsible for compliance could void the user's authority to operate this equipment.

DoC Responsible Party: Panasonic Corporation of North America
                                Two Riverfront Plaza, Newark, NJ 07102
Customer Call Center: 1-866-292-7299

This device complies with Part 15 of the FCC Rules. Operation is subject to the following two conditions: (1) This device may not cause harmful interference, and (2) this device must accept any interference received, including interference that may cause undesired operation.
Type IC-Inherently Protected.
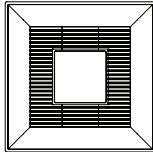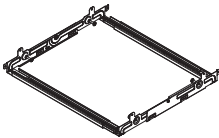
UNPACKING

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		Part name	Appearance	Quantity
Grille		1		Warranty sheet		1
Flex-Z Fast™ bracket (with 4 tapping screws -ST4.2X20)		1		Installation instructions		1
Self-drilling screw		4		Quick Start Guide		1
Machine screw (M4X8)		1		3 inch duct reducer (optional part)		1

DIMENSIONS

FV-0511VFL1 and FV-0511VFL1K   Unit: inches (mm)

1 3/8 (32.6) 1 1/2 (37) 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)
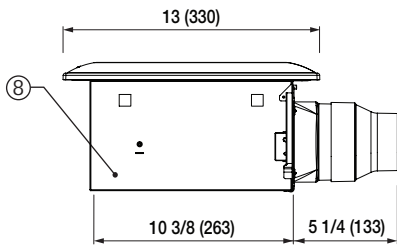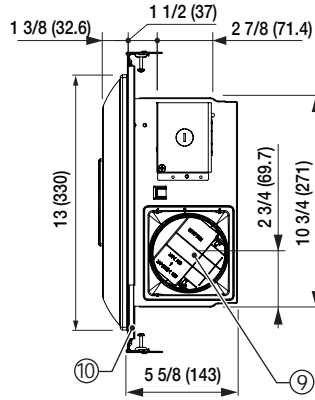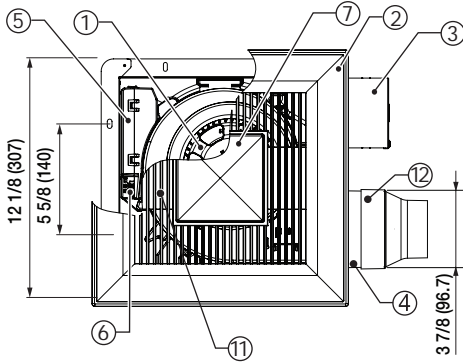
No.	Part name	No.	Part name
①	Blade	⑧	Fan body
②	Grille	⑨	Damper
③	Junction box	⑩	Flex-Z Fast ™ bracket
④	Adaptor	⑪	Adjustable color temperature switch (FV-0511VFL1K only)
⑤	PCB box		
⑥	Pick-A-Flow switch	⑫	Duct reducer (optional part)
⑦	Lighting unit		

WIRING DIAGRAM

FV-0511VFL1 and FV-0511VFL1K

*Night Light

Fan body — Junction box

Main control circuit

DC Motor — Main control circuit

White — Neutral
Black — Live (Fan)
Power switch

Green — (Ground wire)

AC 120 V 60 Hz (Power supply)

LED

Blue — Live (N. Light)*
Power switch
White — Neutral
Black — Live (Light)
Power switch

AC 120 V 60 Hz (Power supply)
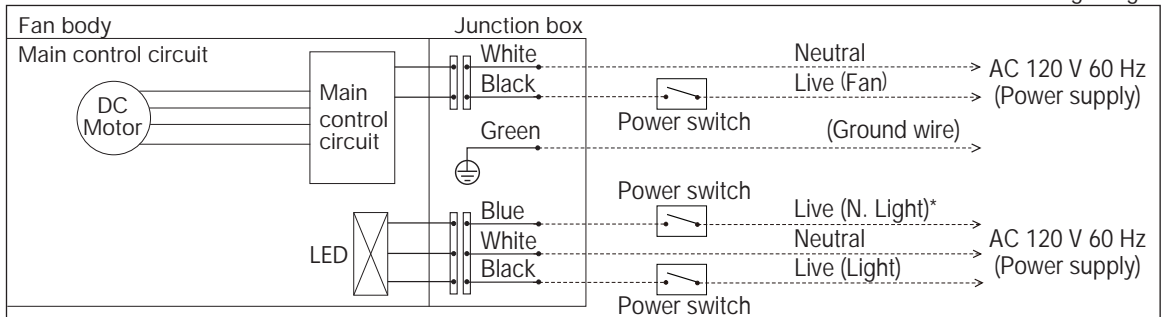
FEATURES

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.

FEATURES CONTINUED

[For model : FV-0511VFL1 and FV-0511VFL1K]

Pick-A-Flow Feature:

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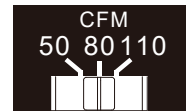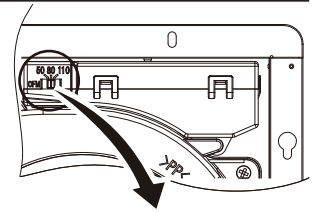The Pick-A-Flow switch on the face of the product allows the option to choose 50, 80 or 110 CFM. This product can run continously or intermittently, depending upon the needs of the owner.

| Air volume option (CFM)			Factory setting
50	80	110	80 CFM

CFM
50 80 110

Pick-A-Flow switch

[For model : FV-0511VFL1K only]

Adjustable color temperature Feature:

This product comes with an adjustable color temperature switch.
The adjustable color temperature switch on the LED unit allows the option to choose 3000, 4000, or 5000 K, to match the room lighting or the owner preference.

| Lighting option (K)			Factory setting
3000	4000	5000	4000 K
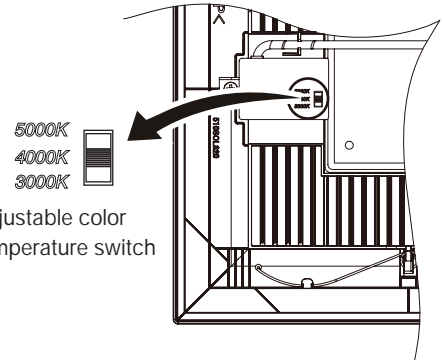
5000K
4000K
3000K

Adjustable color temperature switch

The 3000 K LED setting produces a warm white light.
The 4000 K LED setting produces a cool white light.
The 5000 K LED setting produces a daylight color white light.

INSTALLATION (RETROFIT)

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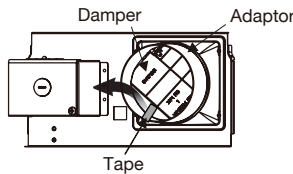
Damper   Adaptor

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.

Unit: inches (mm)

① Template

PAD

Drywall
Marker
Template
10 7/8 (275)
10 7/8 (275)
Draw the contour with a marker through marked line

②

Flex-Z Fast™ bracket

③ Bend down 4 tabs

Joist
Align
④
Flex-Z Fast™ bracket
2 Tapping screws (ST4.2X20)
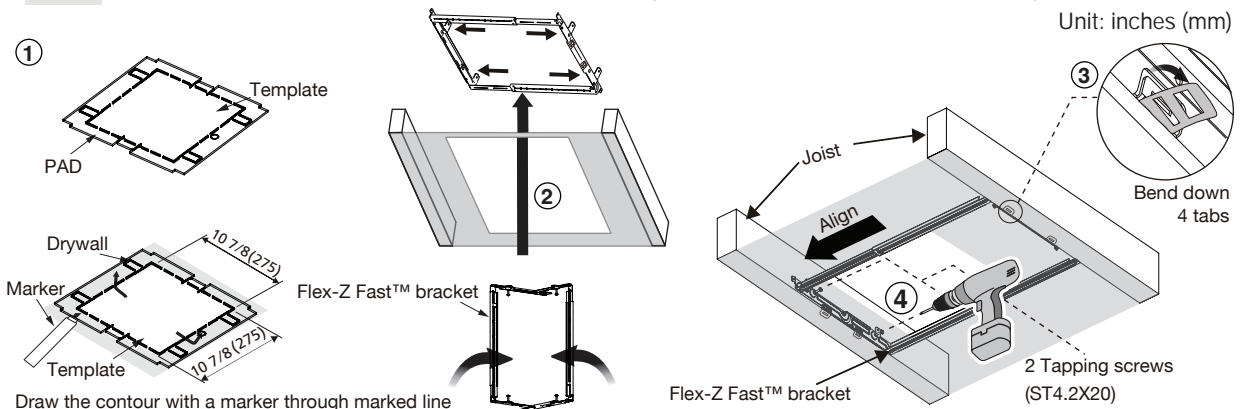
① Remove the existing fan and use housing masking template to mark the ceiling opening and cut the ceiling along the marked line.

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 Flex-Z Fast™ bracket to joist using 2-preinstalled tapping screws.

2 Install circular exhaust duct

2 Tapping screws (ST4.2X20)

Extend

5

6

Joist

Circular exhaust duct

Conduit

Flex-Z Fast™ bracket

Joist

2

Adaptor

Junction box cover

1

(5) Extend bracket to the other joist.
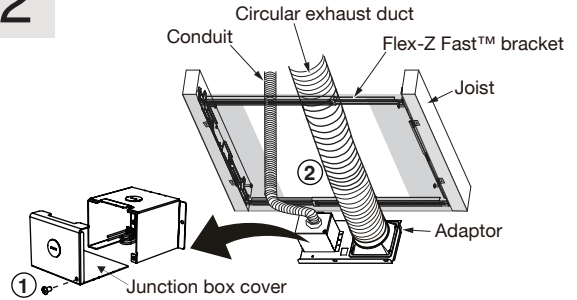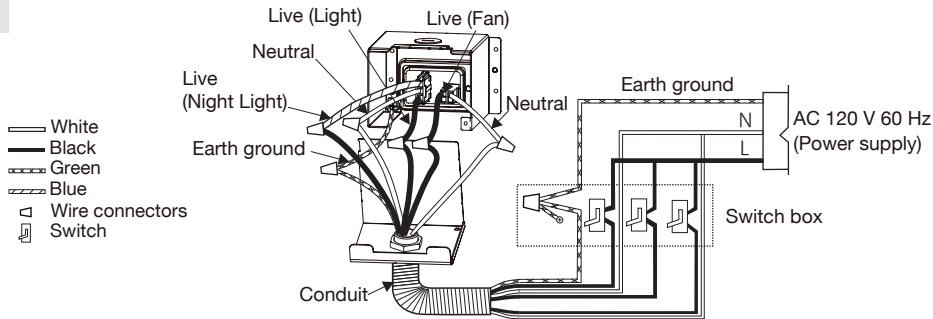
(6) Install bracket to just using 2-preinstalled tapping screws

(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 Connect wires

Live (Light)
Live (Fan)
Neutral
Live (Night Light)
Earth ground
Neutral
Earth ground

AC 120 V 60 Hz
(Power supply)

N
L

White
Black
Green
Blue
Wire connectors
Switch

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

1

Drywall

2 Self-drilling screws

1

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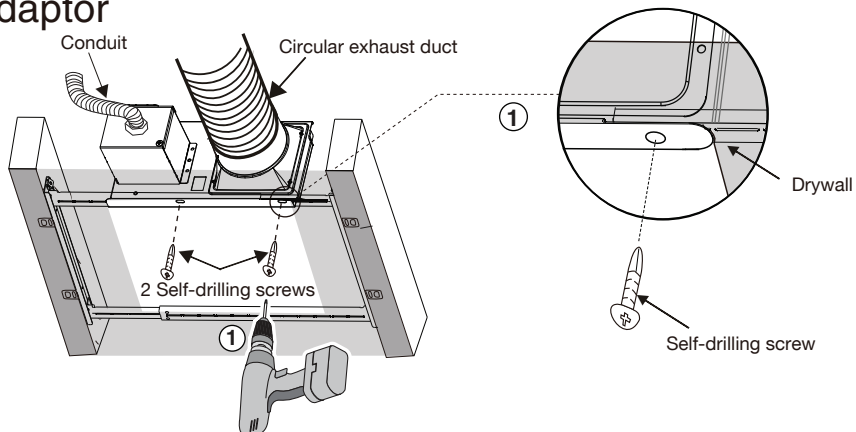
(1) Install the adaptor to the Flex-Z Fast™ bracket by using 2 self-drilling screws.

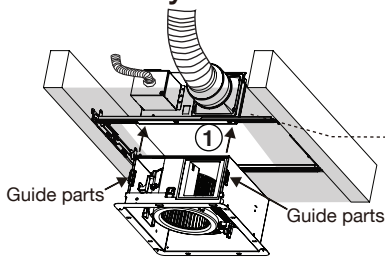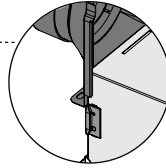# INSTALLATION (RETROFIT) CONTINUED

5 Insert fan body

Guide parts

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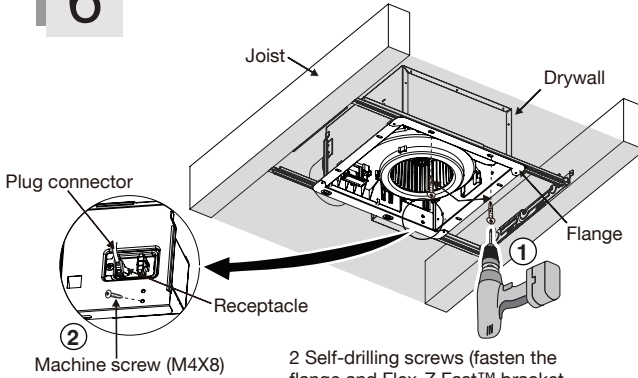
(1) Insert fan body and slide into adaptor assembly using the guide parts until you hear a click from the hook.

6 Secure fan body

Joist

Drywall

Plug connector

Flange

Receptacle

(2)

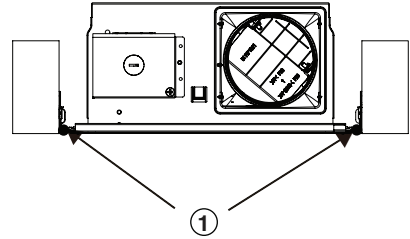Machine screw (M4X8)

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 by using machine screw (M4X8).

7 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)

8 Set lighting
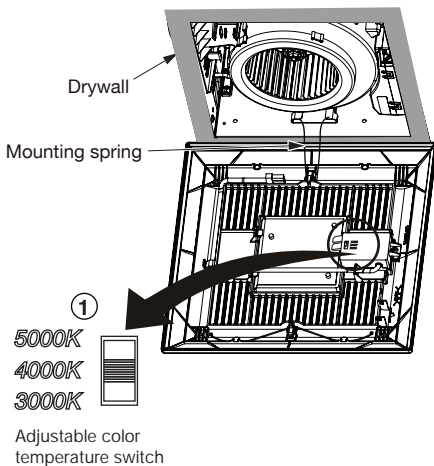
Drywall

Mounting spring

(1)

5000K
4000K
3000K

Adjustable color temperature switch

(1) Set the adjustable color temperature switch on the lighting option required by the owner. (FV-0511VFL1K only). (Refer to explanation under FEATURES). (Page 6)

9 Install grille
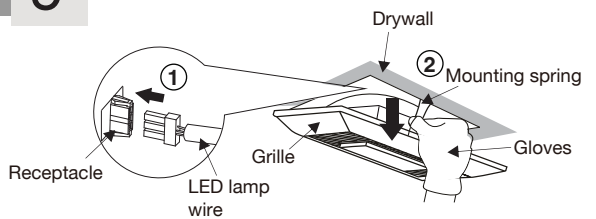
Drywall

(2) Mounting spring

(1)

Receptacle

Grille

LED lamp wire

Gloves

(1) Connect the LED lamp wire to fan body.
(2) Insert the mounting springs into the slot as shown to mount grille to fan body.

⚠ 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.

INSTALLATION (NEW CONSTRUCTION)

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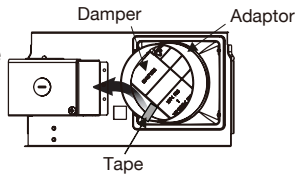
Damper   Adaptor

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

①

Joist

Align

②

Flex-Z Fast™ bracket

2 Tapping screws (ST4.2X20)

Joist

Joist

2 Tapping screws (ST4.2X20)

③

Extend

④

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

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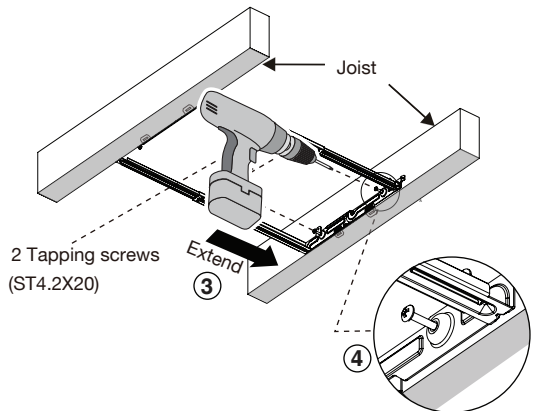
③ Extend bracket to the other joist.

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

2 Install circular exhaust duct

Conduit   Circular exhaust duct

②

① Junction box cover

2 Self-drilling screws

③
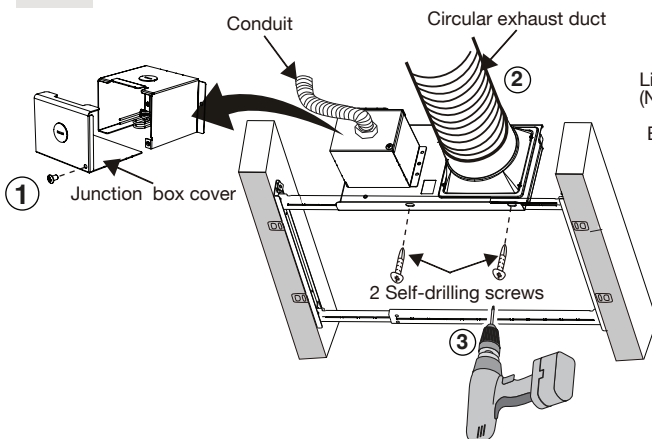
① Remove screw from junction box cover and secure conduit or stress relief to junction box knock-out hole.

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

Live (Light)   Live (Fan)
Neutral
Live (Night Light)   Neutral   Earth ground
Earth ground

N   AC 120 V 60 Hz
L   (Power supply)

Switch box

Conduit

White	Green	⊐ Wire connectors
Black	Blue	Ⓙ 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

Flange

(2) Machine screw (M4X8)

2 self-drilling screws

(1) When the flange overlaps the Flex-Z Fast™ bracket, secure it using 2 self-drilling screws.
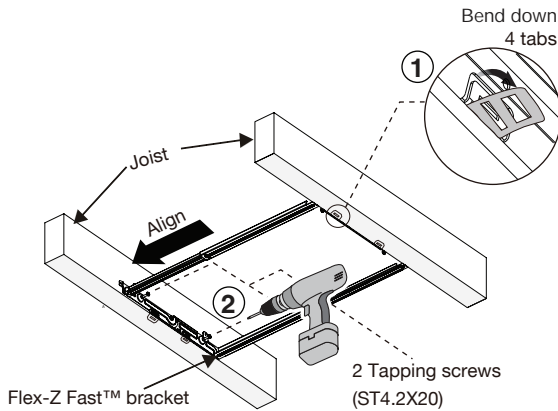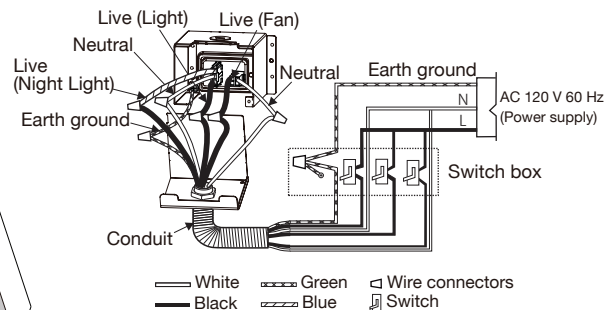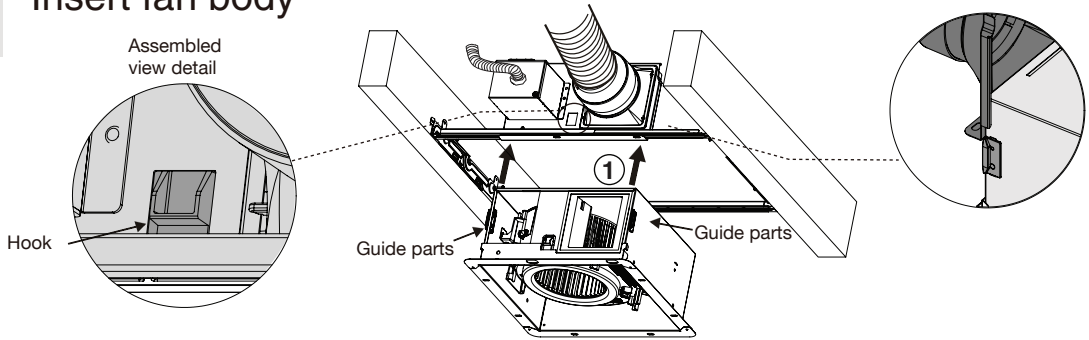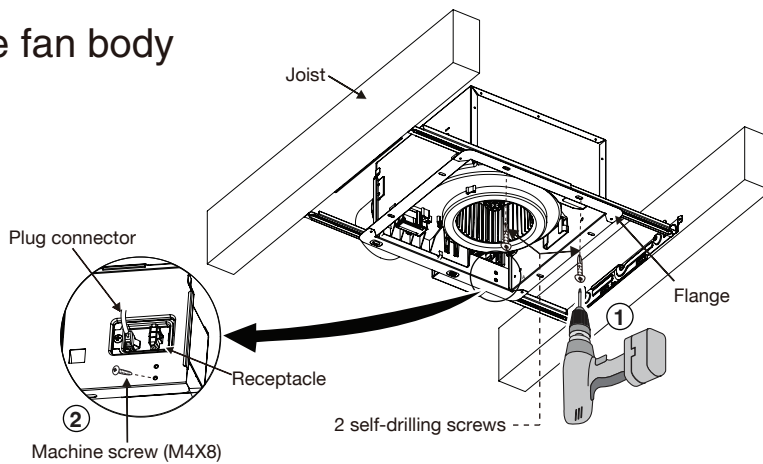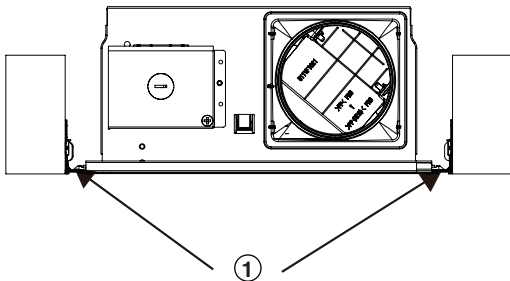(2) Plug connector into receptacle and secure fan body to adaptor using the machine screw (M4X8).

6 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)

7 Set lighting
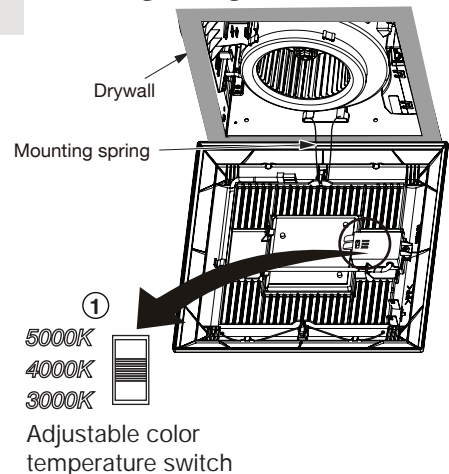
Drywall

Mounting spring

(1)
5000K
4000K
3000K

Adjustable color
temperature switch

(1) Set the adjustable color temperature switch on the lighting option required by the owner. (FV-0511VFL1K only). (Refer to explanation under FEATURES). (Page 6)

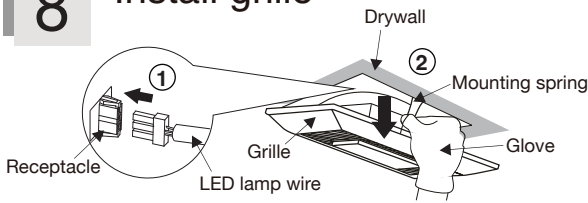| 8 | **Install grille** |

Drywall

Mounting spring

Glove

Receptacle

Grille

LED lamp wire

1. Connect the LED lamp wire to fan body.
2. 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).

| 1 | **Remove grille** |

Mounting spring

Gloves

Slot

Grille

Drywall

Receptacle

LED lamp wire
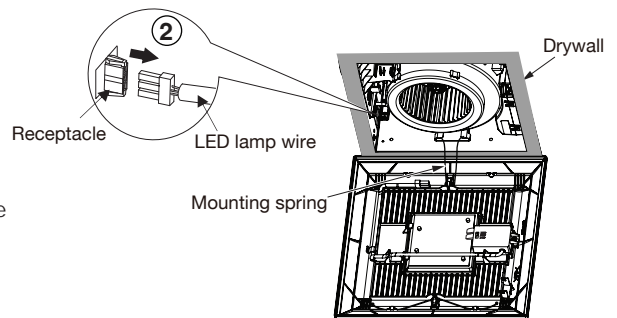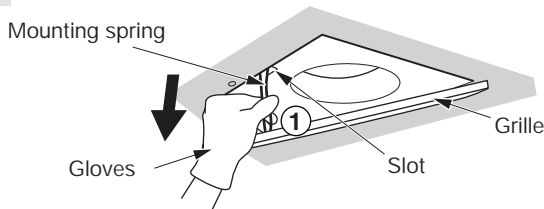
Mounting spring

1. Remove grille by pulling down one mounting spring.
2. Disconnect the wire from the receptacle, then pull down the other mounting spring.

| 2 | **Maintenance of unit** |

Drywall

Gloves

Vacuum cleaner

Drywall

Gloves
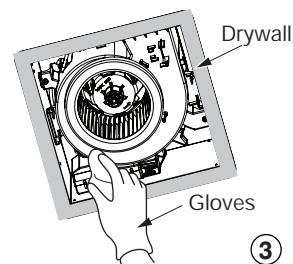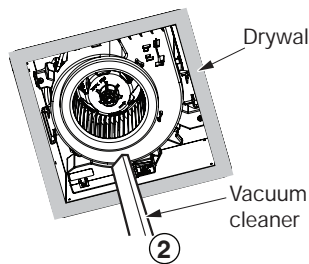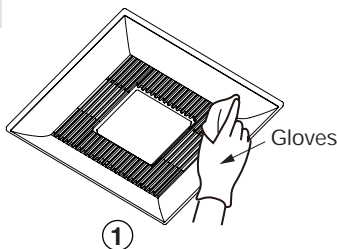
NOTE : The grille should be dry after cleaning.

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 a clean cloth. Reinstall grille after finishing.

PRACTICAL GUIDE TO INSTALLATION

Properly insulate the area around the fan to minimize building heat loss and gain.

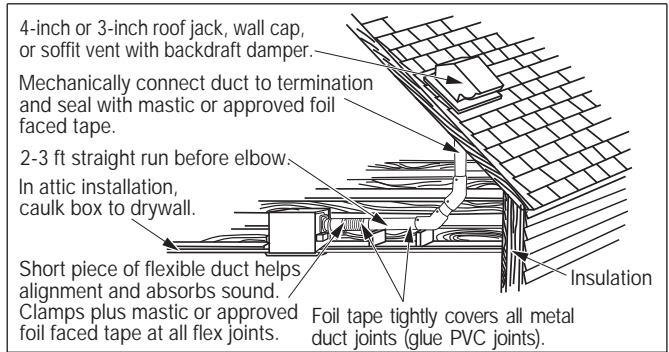Loose fill or batt insulation can be placed directly over the fan housing in the attic. Panasonic fans do not create excessive heat, which is a common problem with recessed light fixtures and some competitors' fan/light combinations. Our efficient, cool - running motors do not create enough ambient heat 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-0511VFL1 FV-0511VFL1K	Exhaust	120	60	4	50	<0.3	768	4.3	9.9(4.5)
					80	<0.4	867	6.5	
					110	0.9	1016	11.5	

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).