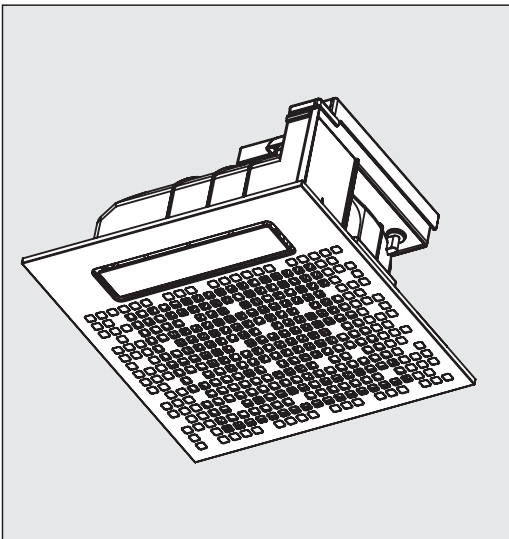


INSTALLATION AND OPERATING INSTRUCTIONS

Cooling Fan

Model No.: FV-27CSE1H



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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 "INSTALLATION INSTRUCTIONS" (P.2~3) of this instructions before installation. 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 carefully read "USE AND MAINTENANCE INSTRUCTIONS" (P.12~13) of this instructions before operation.



SAFETY INSTRUCTIONS

Please observe strictly





- Disconnect power supply before maintenance.
- If the supply cord is damaged, it must be replaced by the manufacturer, its service agent or similarly qualified persons in order to avoid a hazard.
- This product is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the product by a person responsible for the safety. Children should be supervised to ensure that they do not play with the product.

The following explanations must always be observed in order to prevent harm to users or other people and prevent damage to property.

- The following displays are classified and explained to what extent harm or damage occurs when the display details are ignored and the unit in question is wrongly used.

| | | |
|---|----------------|---|
|  | WARNING | This indication means: Must be treated seriously that this may result in death or serious injury. |
|  | CAUTION | This indication means: Must be treated seriously that this may result in injury or physical damage. |

- The types of details to be observed are classified and explained in the following illustrated displays. (below are the series of illustrated displays)

| | | |
|--|--|--|
|  |  | This symbol indicates the item "PROHIBITED" to do. |
|  |  | This symbol indicates the "COMPULSORY" item that must be followed without failure. |

INSTALLATION CAUTIONS

WARNING

- The product must be grounded.



Otherwise, it may cause electric shock when there is any trouble or electric leakage.

- Disconnect power source before working on the product.



Otherwise, an electric shock may be caused.

- Make sure the power cord is installed firmly.



Otherwise, a fire may be caused.

- Please select 60227 IEC 53(RVV) ordinary polyvinyl chloride sheathed cord, power cord nominal cross-sectional area of conductors is $4 \times 0.75 \text{ mm}^2$ (need extended function) or $3 \times 0.75 \text{ mm}^2$ (not need extended function). (Page 6)



Otherwise, it may be on fire.

- Do not install the power switch in bathroom.



Otherwise, it may cause a short circuit, thus resulting a fire.

INSTALLATION CAUTIONS

⚠ WARNING

- Please install an all-pole switch which the contact separation is more than 3 mm(all-pole switch).



Otherwise, it may cause a short circuit, thus resulting a fire.

- Do not install the cooling fan in a place other than the indoor ceiling.



Otherwise, the product may get wet in the rain and cause short circuit.

- Do not remove the cord cover when the power is on.



Otherwise, it may cause an electric shock or a fire.

- The product must be installed by professionals or trained personnel with equivalent expertise and skills according to the national wiring rules.



Otherwise, electric leakage, electric shock or a fire may be caused due to wrong wiring, twisted wiring or wire clamping.

- Do not operate the product other than the rated voltage (220 V~ 50 Hz).



Otherwise, it may cause damages to the product or a fire.

- Do not install the product as the method which is not approved in the instruction.



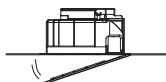
Otherwise, the product may fall down and it may cause injury.

⚠ CAUTION

- Components must be installed tightly.



Otherwise, it may fall off to cause personal injury.



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



Otherwise, it may fall off to cause personal injury.

- Please wear the gloves when installing the product.



Otherwise, it may cause damage.

- Do not reconstruct this product.



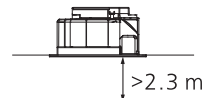
Otherwise, it may cause damage to the product or injury.

- The product must be mounted on a building which is strong enough. To ensure it can bear over 5 times of product weight. The building must be reinforced if its strength can not be ensure.



Otherwise, the product may fall down and it may cause injury.

- The lowest surface of this product should be installed above 2.3 m from the floor after installation.



Avoiding any accident

- Do not install the product in the places that are easy to be splashed by water or will produce a lot of steam.

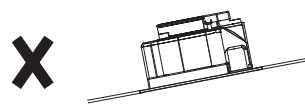
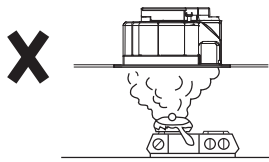
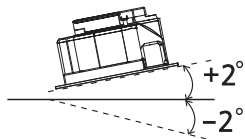


Otherwise, electric leakage may be caused.

INSTALLATION REQUIREMENTS

Please observe the following requirement. Otherwise, it may cause the product aging and breakdown.

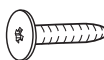






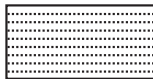
- Please make sure the product is installed horizontally and the deviation angle within the range as below figure.
- Do not install the product directly above the stove.
- Do not install onto slanting ceiling board.



- The product is not provided with power cord, all-pole switch and leakage protection switch. Please purchase them in market.
- Do not install the product in places with much dust.

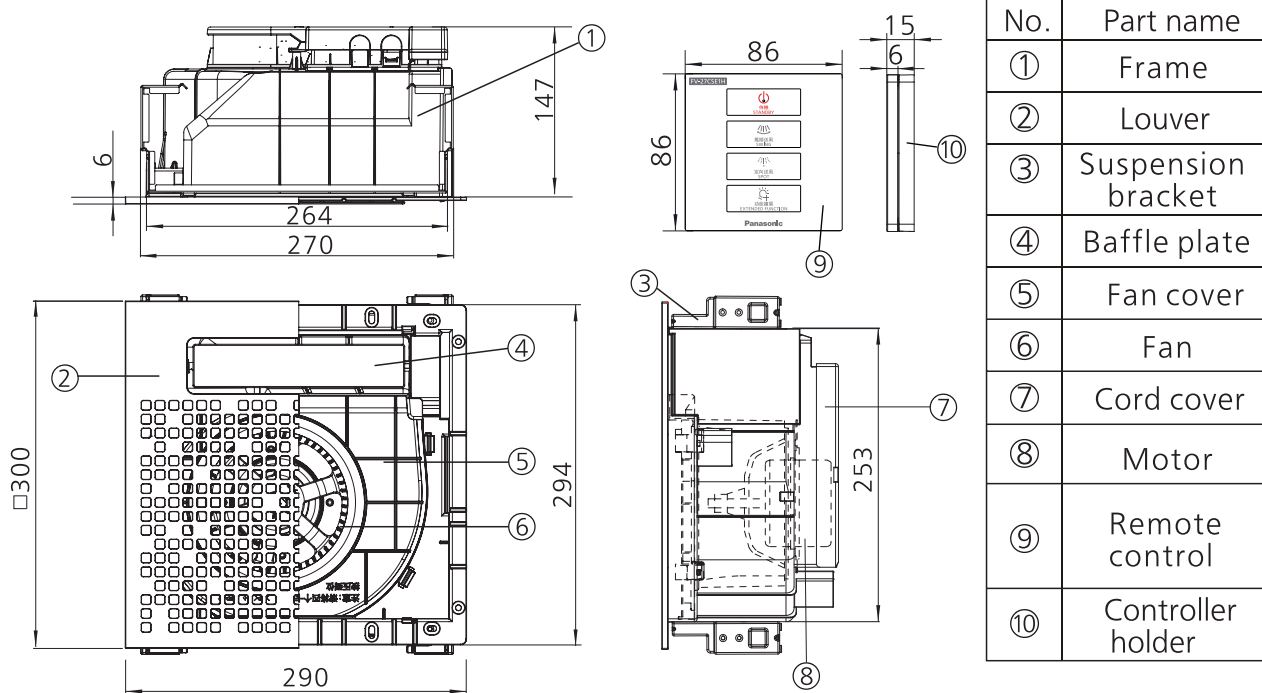
SUPPLIED ACCESSORIES

The following attachments are enclosed in the packing box. Be sure to check if they are complete after unpacking, and if anything is missed, contact customer consultation service center or your distributor.

| No. | Drawing | Name and Purpose | Qty |
|-----|---|--|-----|
| ① |  | Self-tapping screw ($\varnothing 4 \times 20$, used to install product with the ordinary ceiling method) | 4 |
| ② |  | Machine screw (M4 \times 10, used to install product with the anchor bolt method) | 4 |
| ③ |  | Self-tapping screw ($\varnothing 4 \times 16$, used to install the remote control) (placed in the remote control assembly) | 2 |
| ④ |  | Installation and operating instructions | 1 |
| ⑤ |  | Louver | 1 |
| ⑥ |  | Suspension bracket | 2 |
| ⑦ |  | Remote control assembly (included CR2032 battery) | 1 |
| ⑧ |  | Product warranty registration | 1 |

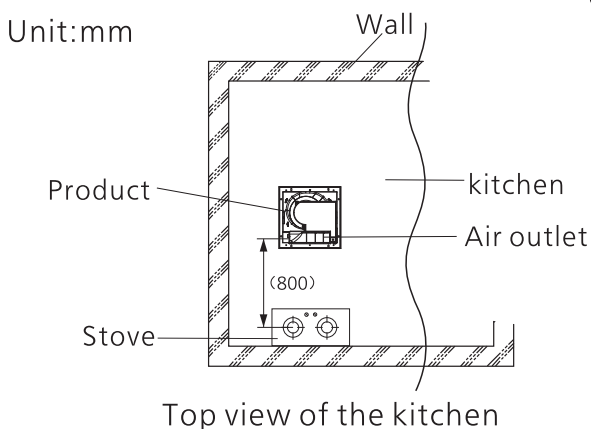
PART NAMES AND DIMENSIONS

Unit: mm



WORK BEFORE INSTALLATION

1. Confirmation before installation



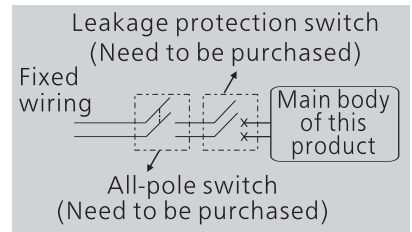
Notice

- ① The distance between ceiling board where the product is mounted and ceiling shall be over 160 mm.
- ② To install the product near the stove, keep a distance of about 800 mm between the air outlet and the stove center (as shown in the figure).
※ Adjust the installation distance properly according to the user's bodily sensation as long as the flame is not affected.
- ③ Please reserve at least 2 m of the power cord for easy installation.
- ④ Adjust the air outlet to a comfortable position for the user.
- ⑤ It is recommended to install the switch within the kitchen and keep it far away from the stove.

WORK BEFORE INSTALLATION

2. Preparation before installation

- Install an all-pole switch with the contact separation not less than 3 mm and a leakage protection switch between the fixed wiring and the main body of this product.
- Do not use an external lighting or ventilating fan with a rated voltage/current exceeding 220 V/0.5 A (a maximum surge current exceeding 40 A). Be sure to make wiring correctly; otherwise, the circuit board may be burned.
- It is recommended to use Panasonic lighting or ventilating fan as the external device. Otherwise, the product may be damaged.
- Please refer to the Operating Instructions supplied with the lighting or ventilating fan for proper installation.
(The external interface of this product is not provided with a grounding function. Please refer to the Operating Instructions supplied with the external device for proper grounding.)

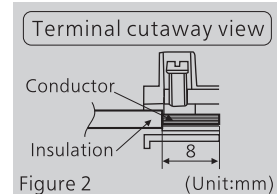
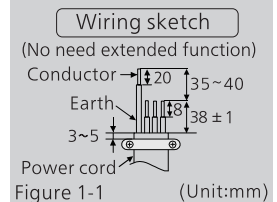
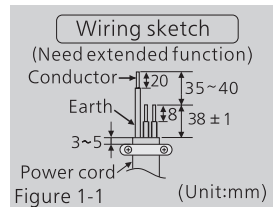


HOW TO INSTALL

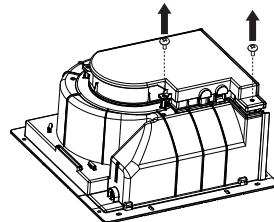
1. Connecting the control wire and power cord

⚠ WARNING

- ⚠ For the stripping length, please prepare according to the wiring sketch (refer to figure 1-1, figure 1-2). If the stripping length is too long, it may cause short circuit or a fire.
- ⚠ Do not damage the sheath of the power cord, otherwise an electric shock may be caused
- ⚠ Strand the core wire together after stripping, then insert them into about 8 mm deep position of the terminal block, and no copper core cord is exposed outside. Make sure that the copper core cords are fixed by screws reliably (the recommended screw fixing torque is 0.49 N·m) (See Figure 2.). Otherwise an electric shock may be caused.



- ① Remove the screws (2 pcs) on the cord cover.



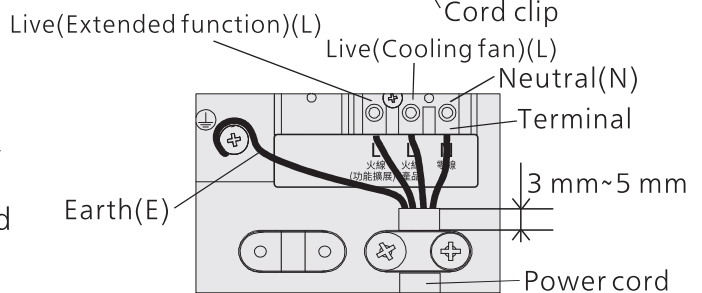
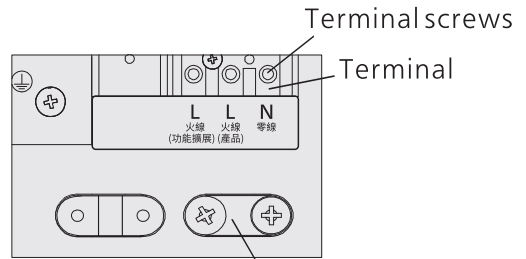
HOW TO INSTALL

② Lift the cord cover, and loosen the screws of the cord clip.

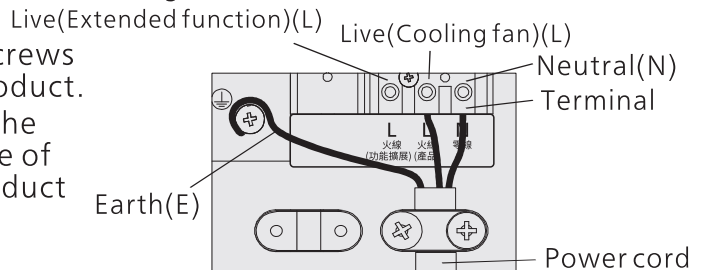
③ Insert the power cord into the pillar terminal, tighten the screw, fix the power cord with the cord clip. (Be sure to clamp the power cord by its insulating outer sheath with the cord clip. Otherwise, the power cord may be loosened by force, thus resulting in electric leakage.)

Notice

- Do not use any other terminal screws than those supplied with the product.
- Do not connect the live wire of the external device with the live wire of the product. Otherwise, the product may run abnormally.



Wiring method—need extended function



Wiring method—not need extended function

④ Use the screws (2 pcs) removed in Step ① to fix the cord cover again.

CAUTION

■ After installation, make sure to cover the cord cover.

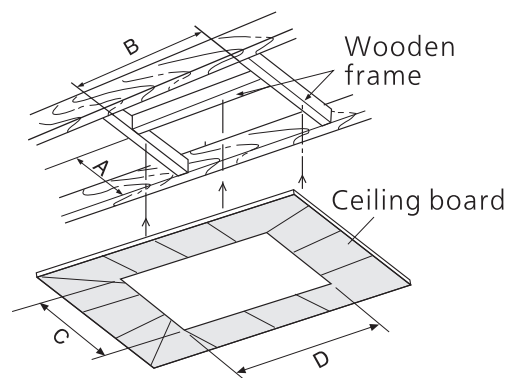
! Otherwise, it may cause an electric shock or a fire.

2. Fan body installation

Method 1 Ordinary ceiling

① Make a wooden frame and install it onto the ceiling joist. Ensure that the total thickness of the wooden frame and ceiling should be 25 mm~30 mm. Meanwhile, open a mounting hole in the ceiling board with dimensions as shown in the table below: (unit: mm)

| A | B | C | D |
|-------|-------|-------|-------|
| 274±5 | 263±5 | 274±5 | 263±5 |

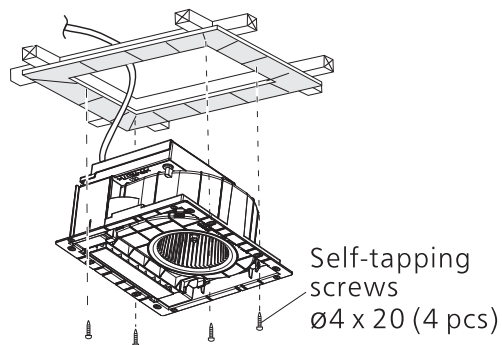


HOW TO INSTALL

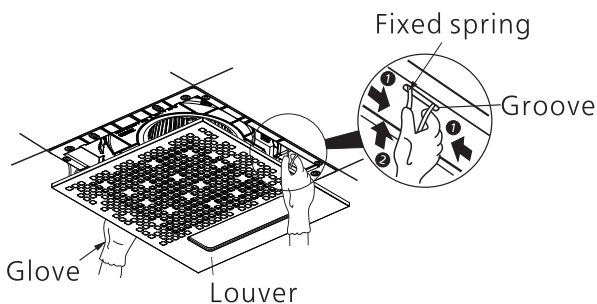
- Push the main body upward into the ceiling board and wooden frame, fix the main body with four $\varnothing 4 \times 20$ self-tapping screws.

Notice

Please be careful not to pinch the cord, when push upward the main body.



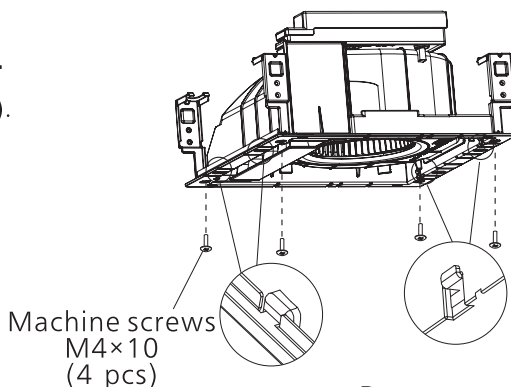
- Insert the fixed spring into the groove, install the louver to the fan body.



2. Fan body installation

Method 2 install with anchor bolt

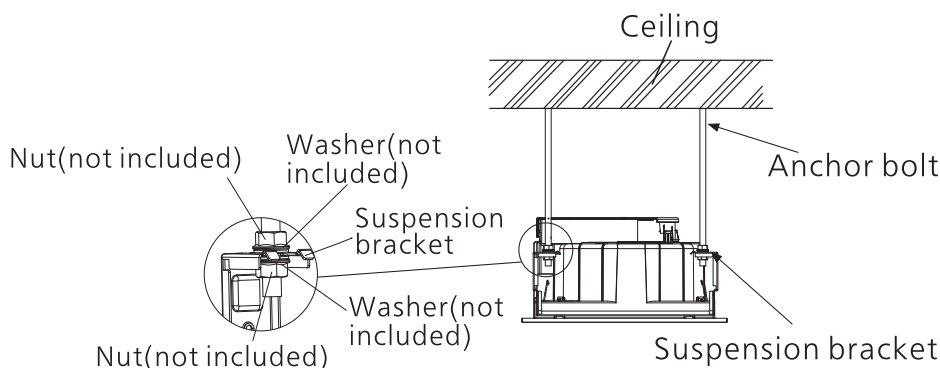
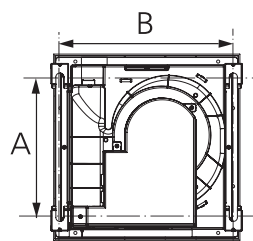
- Take out the suspension brackets (2 sets). Snap the slots on both sides of the fan body into the buckles of the suspension brackets.
- Use the supplied M4 \times 10 machine screws to fix the fan body to suspension brackets.



- Install the fan body on the anchor bolt refer to the following form. (M8-M10, not supply)

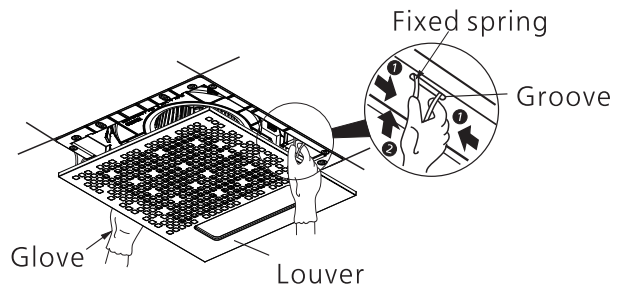
Unit: mm

| A | B |
|-----|-----|
| 226 | 280 |



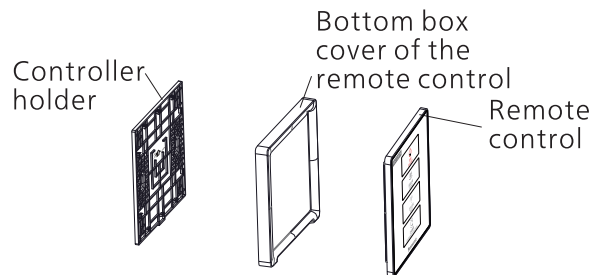
HOW TO INSTALL

- ④ Insert the fixed spring into the groove, install the louver to the fan body.

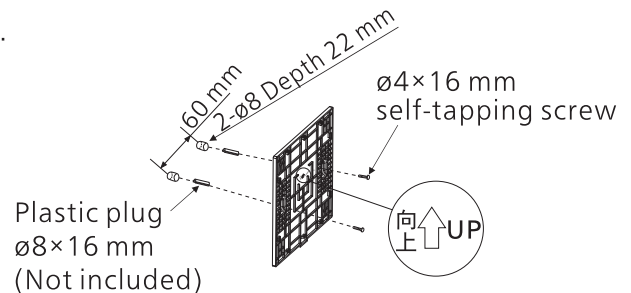


3. Installing the remote control assembly

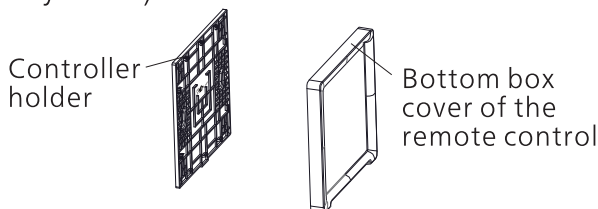
- ① Remove the remote control, and then remove the controller holder together with the bottom box cover of the remote control.



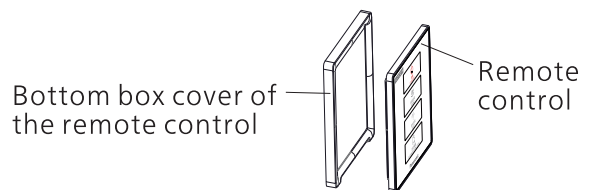
- ② To install the remote control on the wall. Drill two $\varnothing 8$ mounting holes in the kitchen wall, as shown in the figure below. Then fix the remote control with two $\varnothing 4 \times 16$ mm screws. (Install the remote control in the direction of the "UP" symbol.)



- ③ Close the bottom box cover of the remote control and the controller holder, and check that the buckle on each side is locked. (Install the remote control in the direction of the "UP" symbol.)



- ④ Pull in the remote control and the bottom box cover of the remote control.



CAUTION



Do not install the remote control in a place where it is easily splashed by water. (Otherwise, the remote control may not work.)

HOW TO INSTALL

Please remove the adhesive tape before using the remote control for the first time. (According to the method for replacing the battery, after removing the battery cover, remove the adhesive tape without removing the battery.)

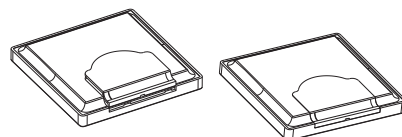
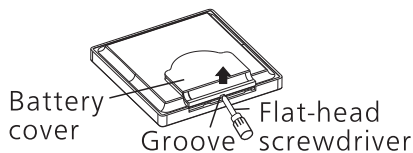


■ How to replace the battery (when a CR2032 battery is used.)

① Pry the battery cover up in the groove using a flat-head screwdriver.

② Replace the battery. Put the battery into place with ⊕ facing upward.

③ Install the battery cover. Put the battery cover into the remote control, and then press on the middle position of the battery cover until a "click" is heard.



■ When the battery leaks, avoid direct skin contact with the battery, and dispose the battery.

■ Please comply with local laws and regulations when dispose the battery.


TSET RUN

■ After the installation, turn on the power supply, pair* the remote control with the product, and then press functional buttons to check the following items:

■ Does the fan revolve normally?



■ Does it have abnormal vibration or noise?

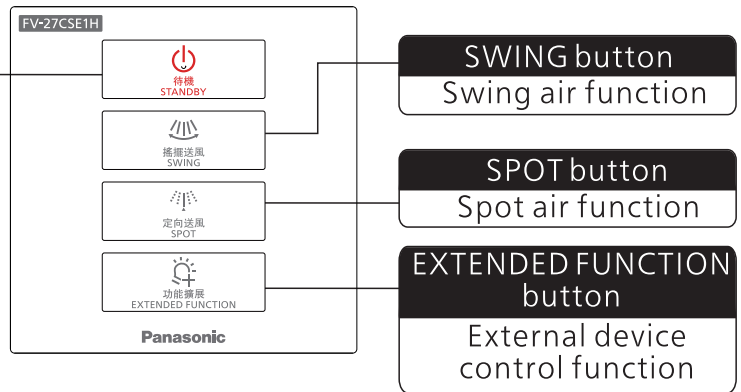
■ Is each button on remote control perform its right function?

※ The remote control must be paired with the product before use. Within one minute after the product is powered on, press the button  on the remote control, When the pairing is successful, beep is heard. After complete the pairing, remote control can be used. (If the remote control was just replaced, power off and restart the product and then repeat the above pairing procedure.)

FUNCTION OF REMOTE CONTROL

STANDBY button

- In the standby status, this product still requires power consumption of about 1 W. If the product will not be in use for a long time, the all-pole power switch should be turned off to disconnect the power supply for the purpose of energy saving.
- In the standby status, press the  button. Beep is heard, the baffle plate will rotate to fix, and the product blows air out.
- Press the  button again. Beep is heard, the product stops blowing air out, and the baffle plate will rotate to close.



Notice

- When it is powered on after a power failure, except the baffle plate is reset and closed, the cooling fan and external device do not operate.

How to adjust the air direction



AUTO :In the fixed air direction mode, press the  button, the baffle plate will automatically swing.

FIXED :In the auto air direction mode,press the  button, the baffle plate will stop swinging.

Notice

In the stop operating mode, press the  and  buttons, the product does not respond.

How to use the extended function

The  button turns the external device on or off independently. Press the  button, the external device (the lighting or ventilating fan) will turn on, press this button again, the external device will turn off .


Notice

The external device works regardless of whether this product is started or standby.

USE AND MAINTENANCE INSTRUCTIONS

WARNING

- Keep such articles as watches and credit cards away from the remote control since it has a built-in magnet.

 The magnetic force of the magnet may cause functional damages to watches, credit cards, etc.

- Before try to touch the main body of this product or clean this product, make sure that the “all-pole switch” connected to this product is disconnected.

 Failure to following this may lead to electric shock.

- If you will not use this product any more, remove the product.


 This product may cause injuries once it falls off.

- If the product will not be in use for a long time, please use the “all-pole power switch” to disconnect the power supply.


 Failure to following this may lead to electric shock.

- Please observe the following when using the batteries.


- Do not inversely install the positive pole and negative pole of batteries.
- Do not short circuit.
- Non-rechargeable batteries should not be recharged.
- Do not use modified or damaged batteries.

 Otherwise, a leakage or damage may be caused.


- Please promptly take out of the battery from the remote control when the battery is exhausted or if you will not use the remote control for a period of time.

 Otherwise, battery may leakage or become hot, crack.


- Please make sure that anyone with a medical pacemaker keep the implantation site away from the remote control since it has a built-in magnet.

 Otherwise, the pacemaker may be negatively affected.


- Do not put the battery in reach of children and infants.

 Swallowing can lead to chemical burns, perforation of soft tissue, and death. Severe burns can occur within 2 h of ingestion. Seek medical attention immediately.

- Do not put battery into fire or heat, break, modify it. Do not expose the appliance or battery to excessive temperatures and be aware of the risk of terminals of the battery-operated appliance or battery being shortcircuited by metal objects.

 If the insulation or exhaust valve is damaged, the battery may leakage or become hot, crack.

- Once flammable gas leaks, do not start any function of this product.


 Doing this may generate spark and thus lead to explosion.

- Do not directly spray this product with water and other liquids.

 Doing this may lead to short circuit or electric shock.



- Do not let water flow into the electric motor or electrical parts.

 Otherwise, may lead to electric shock.

- Do not disassemble this product for repair or reconstruction.

 Doing this may lead to fire and electric shock.

USE AND MAINTENANCE INSTRUCTIONS



CAUTION

■ When you clean this product, please wear gloves.



Otherwise, may lead to injury.

■ The applicable ambient temperature of this product is in the range of $-10\text{ }^{\circ}\text{C}\sim 40\text{ }^{\circ}\text{C}$, using it out of this range may cause a fault.

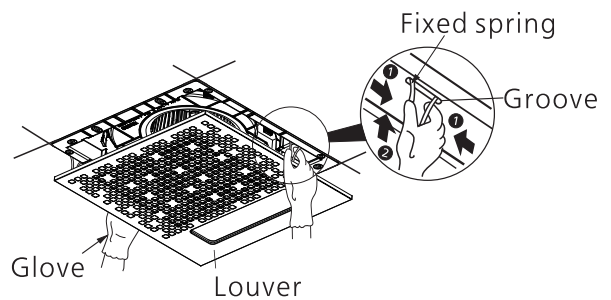
MAINTENANCE

Cleaning Precautions

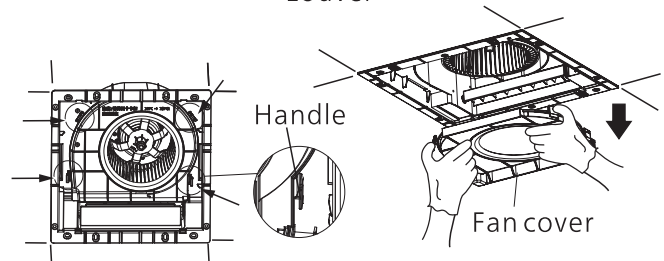
1. Clean the product with neutral detergents. Do not use any of the chemicals or articles as shown, as they may corrode or scratch the product.
2. To use a chemical cloth, clean this product by following the instructions.
3. It is recommended to clean the louver, fan and fan cover about once every six months.
4. Never immerse resin parts in hot water over $60\text{ }^{\circ}\text{C}$.



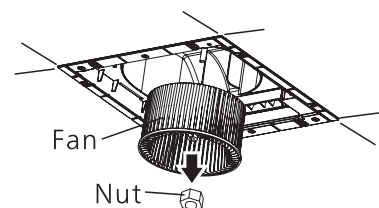
① Shut off the all-pole switch, remove the louver.



② Press the 4 buckles handles on the fan cover with your fingers in the direction of the arrow and remove the fan cover as shown in the figure.



③ Unscrew the nut fixing the fan with a tool, and remove the fan.

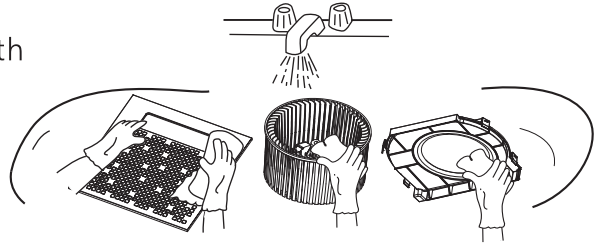


MAINTENANCE

- ④ Wipe the dust off the louver, fan cover and fan with a soft cloth moistened with kitchen detergent, rinse them clean with water, and wipe them dry with a soft dry cloth or let them air dry.

Notice

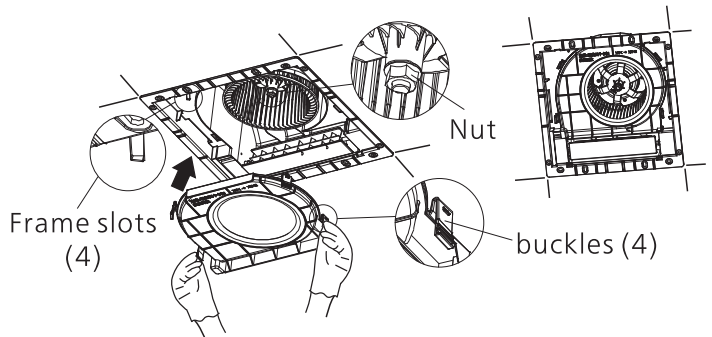
Please clean any foreign matter from the fan in time. Otherwise, the blowing performance may be affected.



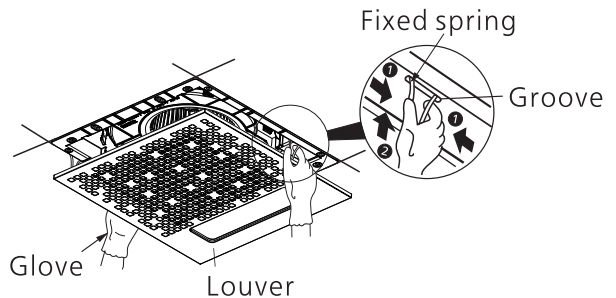
- ⑤ Install the fan back, tighten the fan with the nut which was removed in ③, and then install the fan cover as shown in the right figure.

Notice

1. Be sure to lock the nut after installing the fan back into the product.
2. To install the fan cover back into the product, press the 4 buckles into place until they pass completely through the frame slots so that the fan cover fits well with the frame.



- ⑥ Install the louver and the ceiling board that was removed previously.



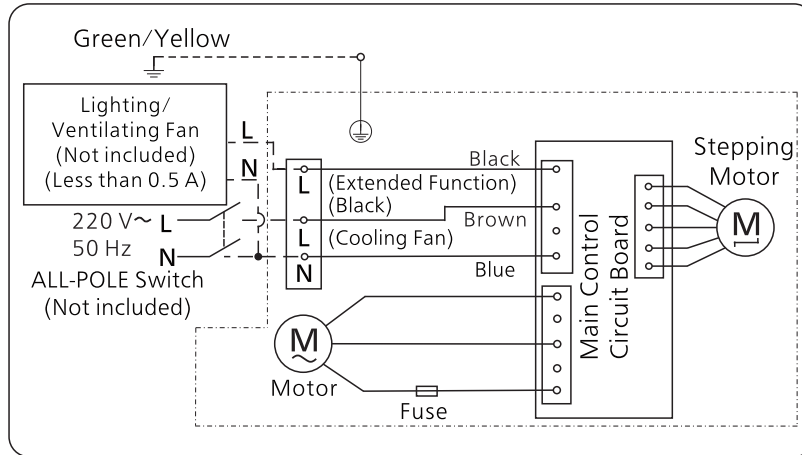
TROUBLESHOOTING

Check the product according to the table below if a fault occurs. If an error still occurs, check that the all-pole switch connected to this product is disconnected, and contact customer consultation service center or your distributor.

| Cause \ Anomaly | Insufficient air flow | Excessive noise | Excessive vibration | Overheated motor | Run abnormally | Handle |
|------------------------------------|-----------------------|-----------------|---------------------|------------------|----------------|------------------------|
| Poor foundation | | ○ | ○ | | | Reinforce foundation |
| Faulty installation | | ○ | ○ | | | Re-adjust installation |
| Low voltage | ○ | | | | | Check power source |
| Sucked in objects/ Adhered dust | | ○ | ○ | ○ | | Inspect and clean |
| Incorrect wiring | | | | | ○ | Change wiring |

■ Please make wiring correctly since the external device may operate abnormally when the wiring is wrong.

WIRING DIAGRAM



SPECIFICATIONS

| Model No. | Rated voltage [V] | Rated frequency [Hz] | Power consumption [W] | Air volume [m ³ /h] | Noise [dB(A)] | Weight [kg] |
|------------|-------------------|----------------------|-----------------------|--------------------------------|---------------|-------------|
| FV-27CSE1H | 220 | 50 | 28 | 200 | 46 | 2.3 |

- Air volume, Power consumption and noise value are measured when static pressure is 0 Pa.
- Noise value is the weighted sound pressure grade A, which is the central value measured by this company, its tolerance range is from +3 dB to -7 dB. The method to measure is as follows: in an anechoic chamber, measure noise value first 1 m away from the left, right and beneath of the sample, then get the averaged value.
- Air volume is the central value measured by this company with $\pm 10\%$ of tolerance range.
- This product comply with the IPX2 requirement against the water drop test.
- Insulation class E

The above specification may be changed without further notice.

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