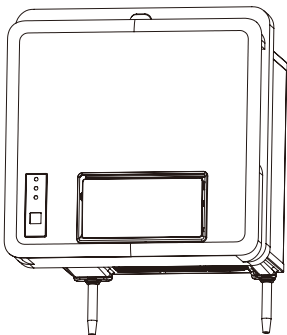


INSTALLATION AND OPERATING INSTRUCTIONS

Thermo Ventilator

Model No. FV-23BWN3H



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Product warranty registration attached

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.2~4) 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.20~21) of this instructions before operation.

Keep the product warranty registration in a safe space along with the instructions for future reference.

- 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 appliance 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 appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.
- The appliance is intended for use at altitudes not exceeding 2000 m.

The following instructions should be strictly observed in order to prevent injury to the users and other people, or damage to property.

- The degrees of injury or damage that can occur when the instructions are ignored and if the product is not used properly have been classified and described by the following indications.



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.

- Types of instructions that should be observed have been classified and described by the following pictorial symbols.



This symbol indicates the item is "PROHIBITED" to do.



This symbol indicates the "COMPULSORY" item that must be followed without failure.

INSTALLATION INSTRUCTIONS



WARNING

- The product must be grounded.



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

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



Otherwise, unreliable installation may be caused and thus the product may fall off, resulting in injuries.

- Do not operate the product other than the rated voltage.



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

- Do avoid the back-flow of gas into the room from the open flue of flammable gas or other open-fire appliances.



Otherwise, a fire may be caused.

INSTALLATION INSTRUCTIONS



WARNING

- To avoid danger arising from wrong resetting of the thermal circuit breaker, the product can not be powered by using an external switch. For example, by a timer or connecting to a circuit that is connected/disconnected through timing of a universal part.



Otherwise, a fire may be caused.

- Do not close to curtains and other flammable materials when install the product.



Otherwise, combustibles may be inflamed.

- The product can not be located just below a power outlet socket.



Otherwise, a fire may be caused.

- 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.

- Please install an suitable all-pole switch which the contact separation is more than 3 mm. Please install the all-pole switch out of the bathroom where it is easily controlled.



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

- Please select 60227 IEC 53 ordinary polyvinyl chloride sheathed cord. Nominal cross-sectional area of conductors is $3 \times 1.5 \text{ mm}^2$.



Otherwise, it may be on fire.

- Make sure the power cord is installed firmly.



Otherwise, a fire may be caused.

- The product is installed so that switches cannot be touched by a person in the bath or shower.



Otherwise, an electric shock may be caused.

- Disconnect power source before working on the product.



Otherwise, an electric shock may be caused.



CAUTION

- Do not reconstruct this product.



Otherwise, it may cause damage to the product.

- Do fix this product tightly.



Otherwise, it may fall off or cause personal injury.

- Components must be installed tightly.



Otherwise, it may fall off or cause personal injury.

- Do not install it on window without sufficient strength. It must be subject to 5 times the weight of the product. If you cannot ensure the installation strength, be sure to adopt reinforcement measure.



Otherwise, it may fall off or cause personal injury.

- It is recommended that two persons perform the installation of the product.



Otherwise, it may cause the product to fall off.

INSTALLATION INSTRUCTIONS



CAUTION

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

❗ Otherwise, unreliable installation may be caused and thus the product may fall off.

- Do not place the product in a sealed or high-temperature environment during bathroom renovation.

❗ Otherwise, the product may discolor due to a chemical reaction with volatile substances emitted from construction materials.

INSTALLATION REQUIREMENTS

- Do not install onto slanting window.



Prevent the water condensed in the duct pipe flow back into the body.

- Do not install the product in steam sauna bathroom.



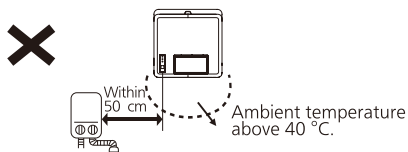
Maybe it can cause breakdown.

- Do not install the product in the places where the sprayer is used.



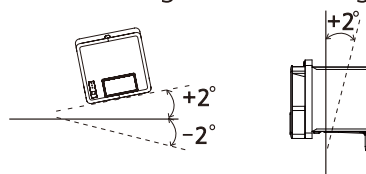
Maybe it can cause breakdown.

- Do not install the product in places with high temperature.

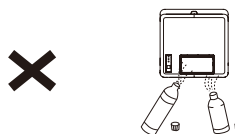


Maybe it can cause breakdown.

- Please make sure the product installed horizontally and the deviation angle within the range as below figure.

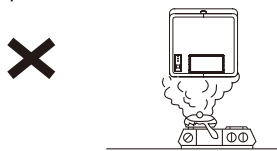


- Do not install the product in the places where the organic solvent is used.



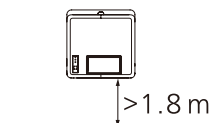
Maybe it can cause breakdown.

- Do not install the product where it is exposed to oil mist.



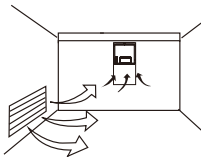
Maybe it can cause breakdown.

- The product must be installed over 1.8 m above the floor.



INSTALLATION REQUIREMENTS

- Please set ventilation holes.



- The product is not provided with power cord, all-pole switch and leakage protection switch (with the leakage current lower than 30 mA). Please purchase them in market.

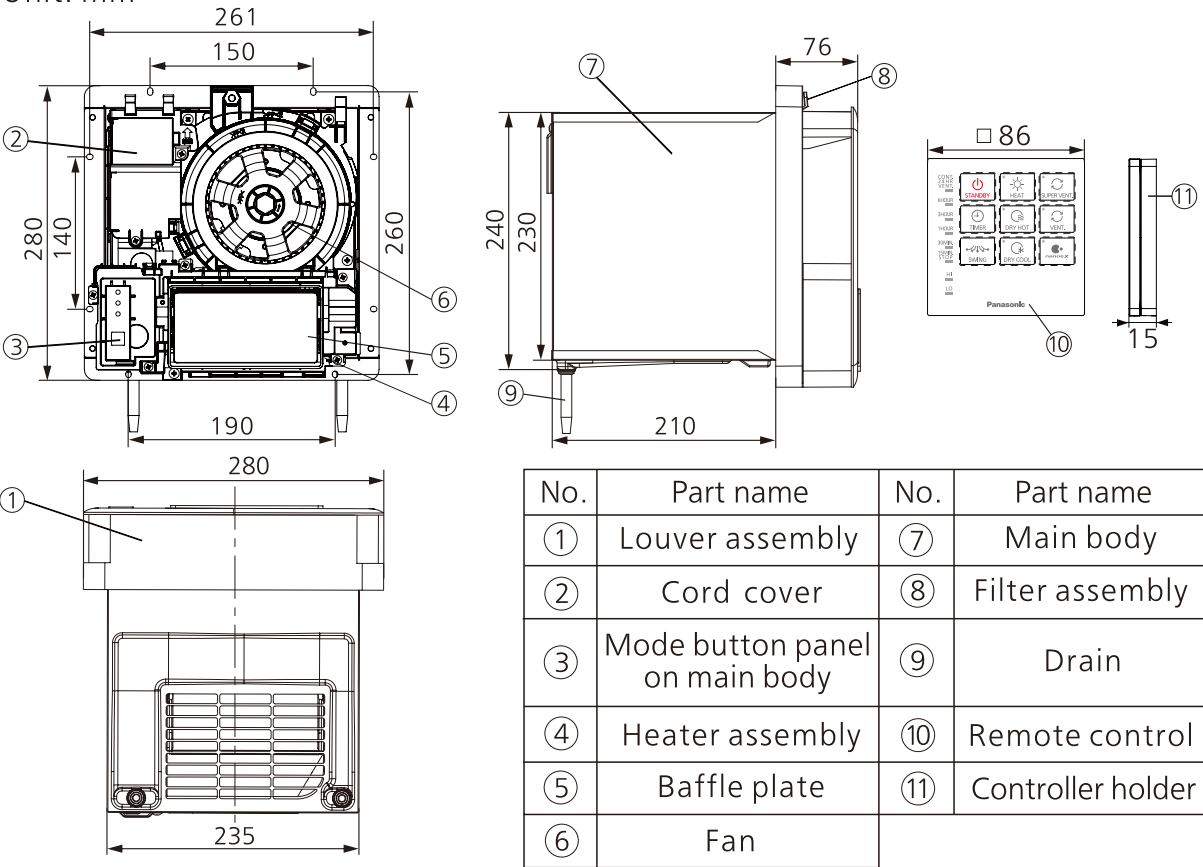
- Do not cover air outlet, maybe it can cause breakdown.
- When you install plastic part, do not exert too much strength to fixing the screw (the recommended screw fixing torque is 0.78 N·m), otherwise, the product would be damaged.
- Do not install this product in a public bathroom.
- Do not install this product in a wardrobes.
- In extreme weather condition(rainfall precipitation more than 240 mm/h, wind speed higher than No.8 typhoon.), there may be water through frame into bathroom.

SUPPLIED ACCESSORIES

No.	Drawing	Name and purpose	Qty
①		Machine screw (M4×10, used to install the louver assembly)	1
②		Self-tapping screw (ø4×16, used to install the controller holder)	2
③		Self-tapping screw (ø4×25, used to install the main body and the window)	4
④		Product warranty registration	1
⑤		Installation and operating instructions	1
⑥		Remote control panel Chinese card	1
⑦		Louver assembly	1
⑧		Remote control (included CR2032 battery)	1

PART NAMES AND DIMENSIONS

Unit: mm

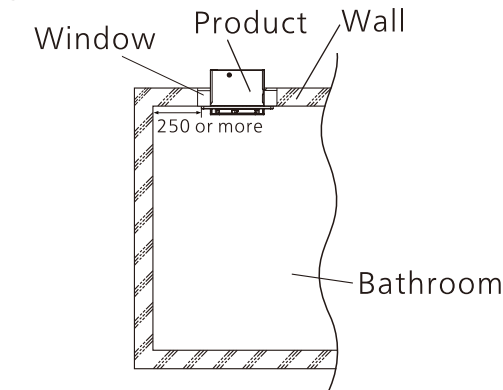


No.	Part name	No.	Part name
①	Louver assembly	⑦	Main body
②	Cord cover	⑧	Filter assembly
③	Mode button panel on main body	⑨	Drain
④	Heater assembly	⑩	Remote control
⑤	Baffle plate	⑪	Controller holder
⑥	Fan		

WORK BEFORE INSTALLATION

1. Confirmation before installation

Unit: mm



Notice

- (1) Install this product over 200 mm apart from curtains or other flammable materials. (When the mounting hole is adjacent to curtains or other flammable materials, ensure that more than 250 mm gap is required between the hole edge and wall.)
- (2) Please reserve a sufficient length of the power cord for easy installation.

The bathroom size may affect the heating performance of this product.

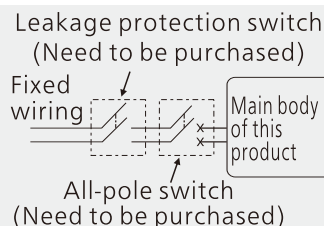
WORK BEFORE INSTALLATION

2. Preparation before installation

Install an all-pole switch with the contact separation not less than 3 mm and a leakage protection switch (with the leakage current lower than 30 mA) between the fixed wiring and the main body of this product.

Notice

Please select the suitable all-pole switch and leakage protection switch according to locally relevant Electricity and Wiring Regulations.

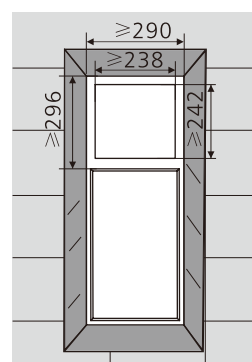


HOW TO INSTALL

1. Recommended main body installation method

- ① This product can be installed on a window which size is shown as right figure. A window frame needs to be made according to the window and main body dimensions.

Product installation dimensions
(minimum opening dimensions)
(width)238 mm×(height)242 mm

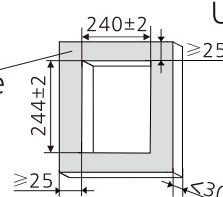


Unit: mm

Window frame material: recommend the use of aluminum alloy.

Window frame thickness: less than 30 mm

Window frame
(Not included)



Unit: mm

Notice

It may be difficult to remove the filter if little clearance between product and ceiling.

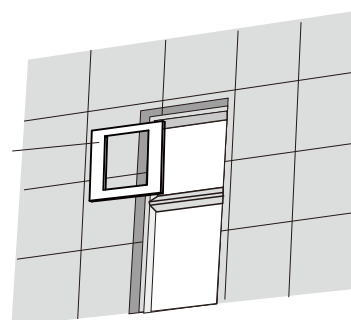
- ② Fix the window frame onto the original window.
(It must be can bear 5 times weight of the product.)

! WARNING

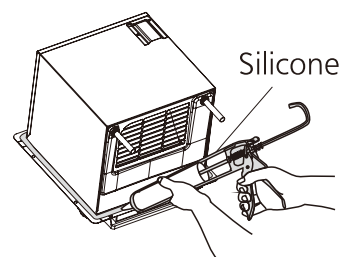


Please be sure to take sufficient protection measure to prevent from high falling when install window frame.

Window frame
(Not included)

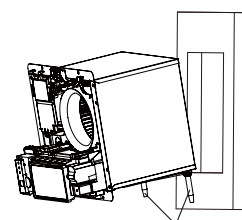


- ③ Add silicone to seal around the flange of product, to make sure that the silicone cover the entire surface of sponge.



HOW TO INSTALL

- ④ Please put the lower part of the product into the window sill first when it is installed, which to make sure the drain does not fall off.



Drain

- ⑤ Fix the main body onto the window frame with the supplied four $\phi 4 \times 25$ self-tapping screws.

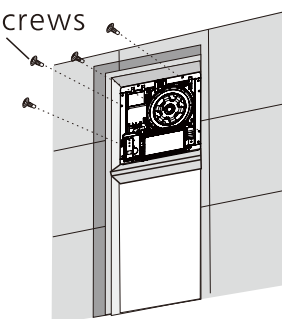
$\phi 4 \times 25$ self-tapping screws



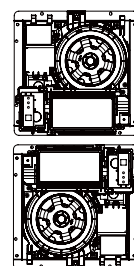
WARNING

Properly install the main body according to the direction indicating label on the main body.

Otherwise, it may cause electric leakage.



Installation direction



2. Connecting power cord



WARNING



Please select 60227 IEC 53 ordinary polyvinyl chloride sheathed cord. Nominal cross-sectional area of conductors is $3 \times 1.5 \text{ mm}^2$.



For the stripping length, please according to the wiring sketch (refer to figure 1). If the stripping length is too long, it may cause short circuit.

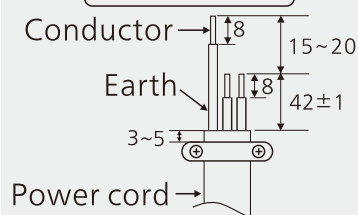


Do not damage the sheath of the power cord, otherwise an electric shock may be caused or short circuit.



Strand the core wire together after stripping, then insert them into about 8 mm deep position of the terminal block, ensuring that the part is under the spring slice, 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 $0.49 \text{ N} \cdot \text{m}$) (see figure 2). Otherwise an electric shock may be caused.

Wiring sketch



Unit: mm

Figure 1

Terminal block cutaway view

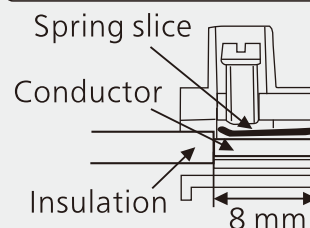


Figure 2

- ① Remove the screw (1 pc) on the cord cover, and open the cord cover.

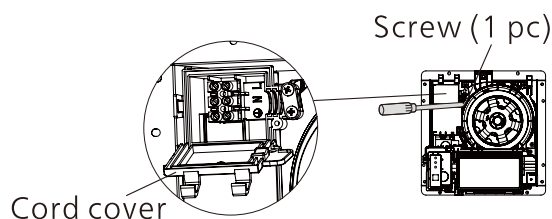
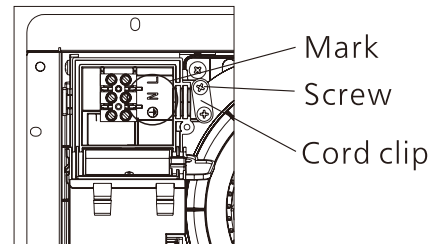


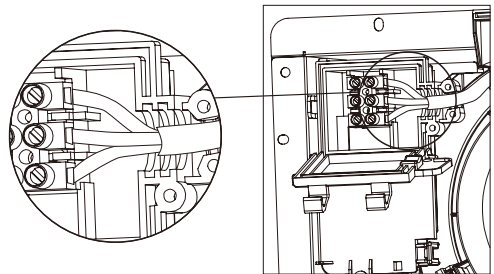
Diagram with the cover removed

HOW TO INSTALL

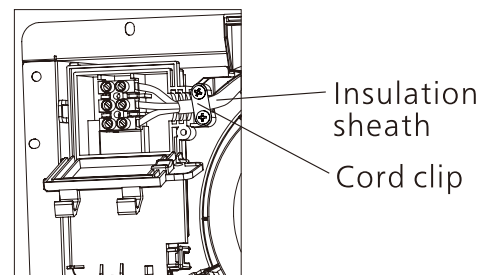
- ② Loosen the screws of the cord clip.



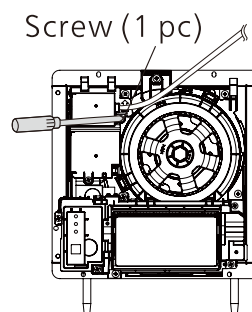
- ③ Loosen the screws of the terminal block, insert the power cord (not supplied) connected to the indoor fixed wiring into the terminal block according to the marks, tighten the screws.



- ④ Fix the power cord with the cord clip. (The cord clip must pin the insulation sheath of power cord.)



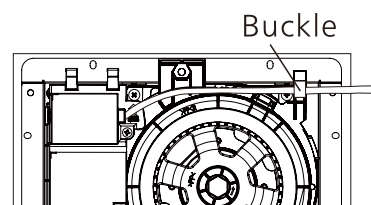
- ⑤ Put the cord cover back on, and use the screw removed in step ① to fix the cord cover again.



- ⑥ A power cord lead-out position is set at both the left and right sides of the main body, select one as required.

In the case of right wiring:

Insert the power cord into the buckle.



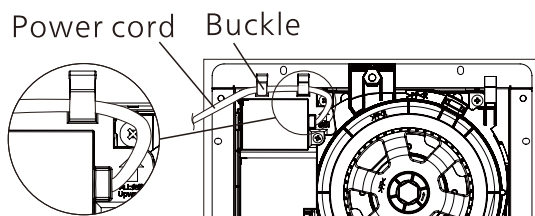
HOW TO INSTALL

In the case of left wiring:

Pull the power cord into the buckle of terminal cover.

Notice

Please lead out the power cord as the figure position shown in the figure. Otherwise, the filter may be unable to be installed.

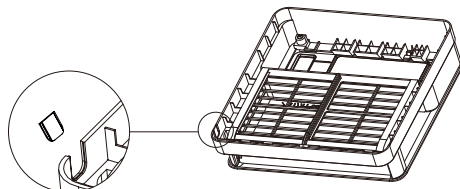


3. Installing louver assembly

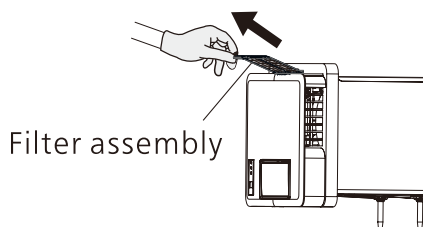
- ① At the power cord lead-out side (left or right), cut the outlet of the louver assembly by tools according to the groove shape on the back (nipper pliers) of the body assembly. (Take left outlet of power cord for example.)

Notice

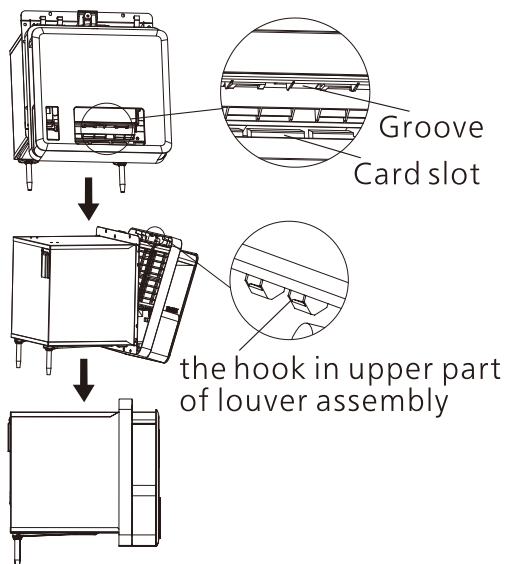
Please remove the burrs of wire outlet before leading out the power cord. Otherwise the power cord may be damaged.



- ② Pull out the filter assembly.

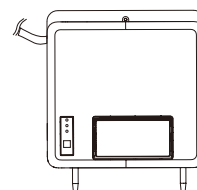


- ③ To install louver assembly, first clamp the card slots in bottom louver assembly in the grooves on the bottom main body. Then clamp the hook in upper part of louver assembly in the fixing position on the upper part of main body.



- ④ Make sure that the power cord is led out from the corresponding louver assembly outlet. (Take the case of the left wiring as an example.)

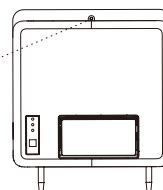
In the case of left wiring:



HOW TO INSTALL

- ⑤ Fix the louver assembly onto the main body with the supplied one M4×10 machine screw.

M4×10 machine screw

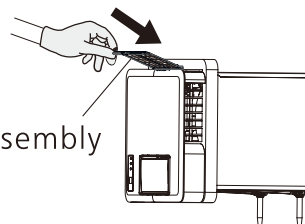


- ⑥ Install the filter assembly.

Notice

Adjust the louver assembly left and right to align it properly with the position of mode button panel on main body.

Filter assembly



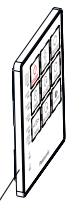
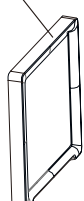
4. Installing the remote control

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

Bottom box cover of the remote control

Controller holder

Remote control



CAUTION



■ Do not install the remote control in a place where it is easily splashed by water. Otherwise, electric leakage may be caused.



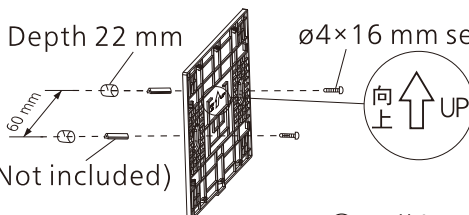
■ The remote control must be securely installed inside the bathroom, ensuring that the product is operated within line of sight.

- ② To install the remote control on the wall.

Drill two $\varnothing 8$ mounting holes in the bathroom wall, as shown in the figure below. Make sure that the mounting position is kept away from direct spraying of the shower. Then fix the remote control with two $\varnothing 4 \times 16$ mm screws. (Install the remote control in the direction of the "↑UP" symbol.)

2- $\varnothing 8$ Depth 22 mm

$\varnothing 4 \times 16$ mm self-tapping screw

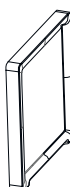


Plastic plug $\varnothing 8 \times 16$ mm (Not included)

- 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.)

Controller holder

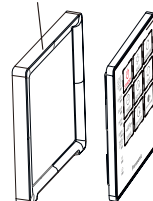
Bottom box cover of the remote control



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

Bottom box cover of the remote control

Remote control



HOW TO INSTALL

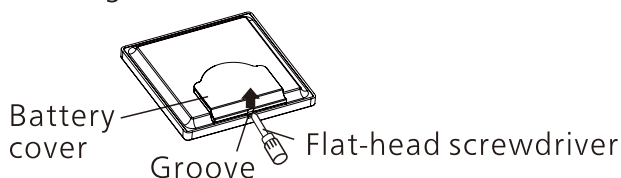
■ How to use the remote control

Please remove the adhesive tape before using the remote control for the first time. (Refer to the ① of replacing the battery, after removing the battery cover, remove the adhesive tape without removing the battery.)

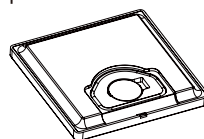


■ How to replace the battery (when a CR2032 battery is used.)

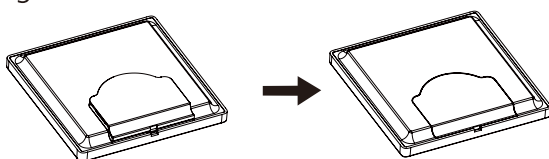
① Pry the battery cover up in the groove using a flat-head screwdriver.



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 it is in place, as shown in the figure below.



Notice

1. If you will not use the remote control for a period of time, take out the battery.
2. Do not replace the battery when the remote control body is wet.
3. Please be careful with picking up remote control, to avoid dropping and cause damage.
4. Please don't immerse the remote control into water.

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

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

TEST 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?
- Does it blow out hot air?
- Is each button on remote control perform its right function?

TEST RUN

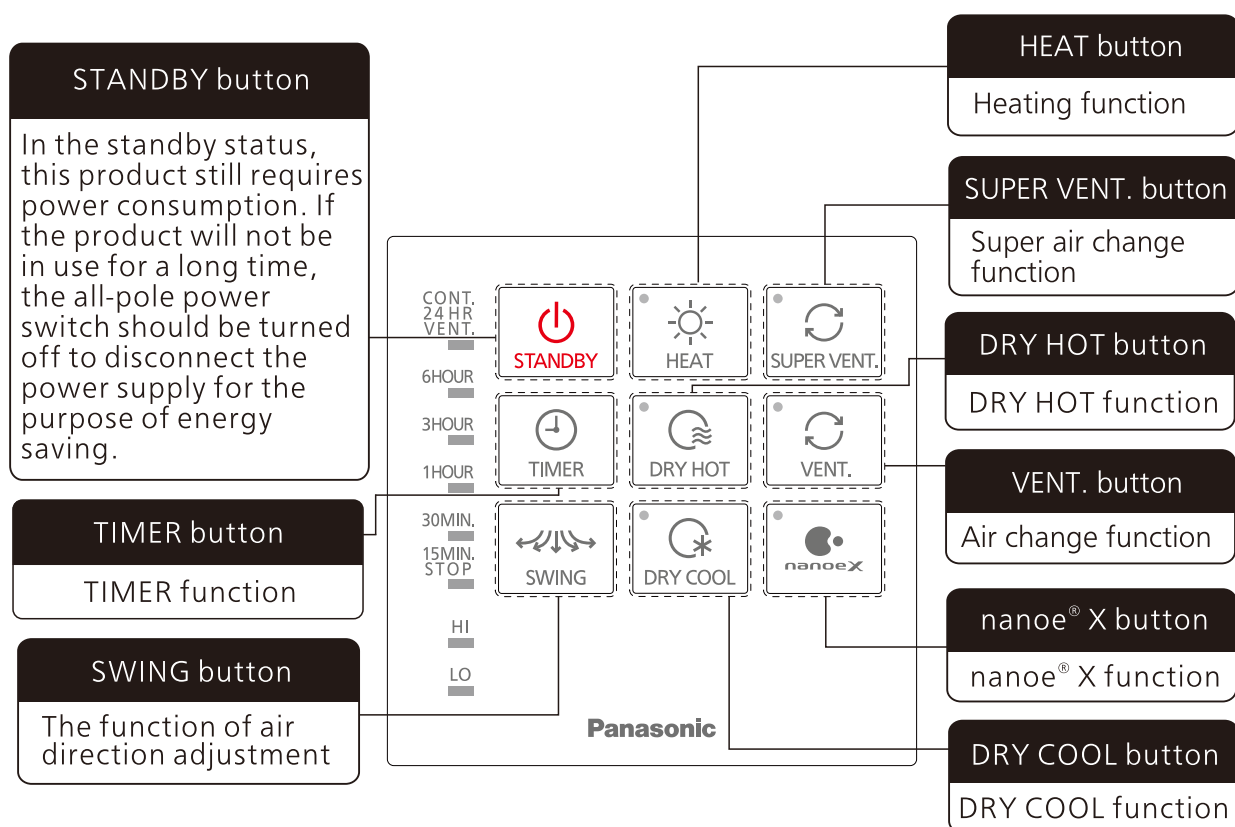
- ※ The remote control must be paired with the product before use. Within one minute after the product is powered on, press and hold the buttons  +  on the remote control for 3 seconds to complete the pairing process. When the pairing is successful, three beeps will be heard.

(If the remote control was just replaced, power off and restart the product and then repeat the above pairing procedure.) Please scan the QR code for details.



- ※ When two or more thermo ventilators of the same model are installed in the nearby area, the RF remote control may be paired with more than one thermo ventilator at the same time. Therefore, please make sure that each thermo ventilator is installed with an independent "omnipolar power switch" according to the requirements and check that only one thermo ventilator is powered on for each pairing.

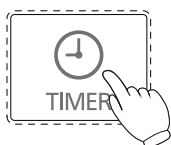
FUNCTION OF REMOTE CONTROL



Notice

When using heating function for a while, press the  button to stop the heater. The fan will stop running after a delay of about 10 seconds.

HOW TO USE TIMER FUNCTION



For running time adjusted

- ① During running, you can press the  button to change the running time. Each time you press the button, the time will change once.
- ② The system will automatically memorize the last running time of each mode.

To cancel the automatic memory content, press and hold the  button for about 3 seconds.

HEAT mode

15 MIN. ~ 3 HOUR Default settings 15 MIN.

VENT. mode, SUPER VENT. mode

15 MIN. ~ 6 HOUR ~ CONT. Default settings 15 MIN.

DRY HOT mode

15 MIN. ~ 6 HOUR Default settings 15 MIN.

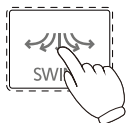
DRY COOL mode

15 MIN. ~ 6 HOUR ~ CONT. Default settings 15 MIN.

nanoe[®] X mode

15 MIN. ~ 6 HOUR ~ CONT. Default settings 3 HOUR

HOW TO USE AIR DIRECTION FUNCTION



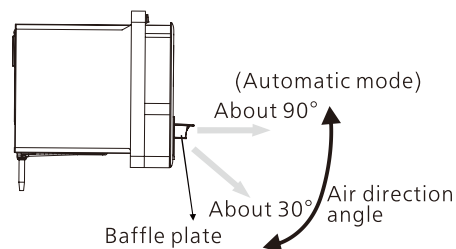
For air direction adjusted

During running, you can press the  button to adjust the air direction.

- ① The initial air direction setting of HEAT, DRY HOT and DRY COOL is AUTO mode. You can press the  button to change the mode between FIX and AUTO.

* AUTO mode: The baffle plate circularly swings within the range of about 30° to 90°

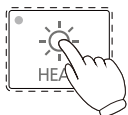
* FIX mode: To fix the baffle plate angle, press the  button then the baffle plate turns to the required position. The baffle plate will stop.



- ② Air direction cannot be set in the ventilation mode and nanoe[®] X mode.
- ③ Each mode will automatically memorize the air direction position set this time.

To cancel the automatic memory content, press and hold the  button for about 3 seconds.

HOW TO USE HEATING FUNCTION

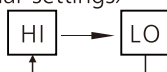


Used when you feel cold in a bath

Before taking a bath, start the heating function to warm the bathroom beforehand.

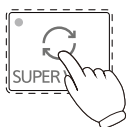
- ① Press the  button to start the heating mode at the HI mode. It will switch to the LO. mode if you press this button again.

(Initial settings)



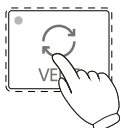
- ② During running, you can press  to change the set time.
 - ③ During operation, you can press the  button to change the air direction.
 - ④ This product will stop automatically when the set time is up.
 - ⑤ To stop midway in running, press the  button.
- ※ In the heating mode running for 30 seconds above, press the  button to stop the heater. The fan will stop running after a delay of 10 seconds.
1. Hot startup function: After the product starts up in the heating mode when the temperature in the bathroom is lower than 20 °C, it enters the hot startup status to avoid blowing of cold air, and the fan runs at a low speed. When the temperature in the bathroom reaches 20 °C or above or after running for about 60 seconds, the hot startup status stops and the fan runs at a high speed.
 2. Heater may stop heating when temperature in bathroom is up to required degree, and may restart heating as the temperature in bathroom cools down.

HOW TO USE SUPER VENTILATION FUNCTION



- ① Press the  button to start the super ventilation mode.
- ② During running, you can press  to change the set time.
- ③ This product will stop automatically when the set time is up.
- ④ To stop midway in running, press the  button.

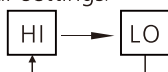
HOW TO USE VENTILATION FUNCTION



Used to ventilate the bathroom

- ① Press the  button to start the ventilation mode at the HI mode. It will switch to the LO. mode if you press this button again.

(Initial settings)



- ② During running, you can press  to change the set time.
- ③ This product will stop automatically when the set time is up.
- ④ To stop midway in running, press the  button.

HOW TO USE nanoe[®] X FUNCTION



Use to sterilize the bathroom

- ① Press the  button to operate nanoe[®] X function.
- ② During running, you can press  to change the set time.
- ③ Air direction: initial settings is AUTO mode, air direction can not be reset during running.
- ④ To stop midway in running, press the  button.

■ About nanoe[®] X

- The so-called nanoe[®] X are charged water purification particles generated by applying high voltage to separate water molecules.
- nanoe[®] X are particulate ions containing hydroxyl radicals whose amount is 20 times that of nanoe[®].
- nanoe[®] X features: high moisture content, small particles, high stability, etc.



1. High moisture content (the moisture content is 1,000 times the moisture content of ordinary anions).
2. Small particles (about 5 nm - 20 nm (nanometers) in size, able to penetrate deep into the fiber and stratum corneum).
3. High stability (6 times more stable than a common ion, covering a distance of 10 m or above).
4. More hydroxyl radicals (up to 9,600 billion of radicals are generated per second).
5. Weak acidity (with weak acidity features close to that of hair and skin).

Note: nanoe[®] and the nanoe[®] mark are trademarks of Panasonic Holdings Corporation.

Notice

1. nanoe[®] X is generated by using the air in the room. Therefore, due to the differences in temperature and humidity nanoe[®] X may not be generated stably.
2. Conditions for nanoe[®] X generation
Room temperature: about 5 °C ~ 40 °C (dew-point temperature: 2 °C or above)
Relative humidity: about 30% ~ 85%
3. When nanoe[®] X is generated, small amount of ozone will be released. However, the quantity will be far less than the level in natural environment such as forest, and not be harmful to human beings.

HOW TO USE DRY HOT/COOL FUNCTION



Used when you need to dry the bathroom or clothes

① Press the  or  button to start the DRY HOT or DRY COOL mode at the HI mode. It will switch to the LO. mode if you press this button again.

(Initial settings)



② During running, you can press  to change the set time.

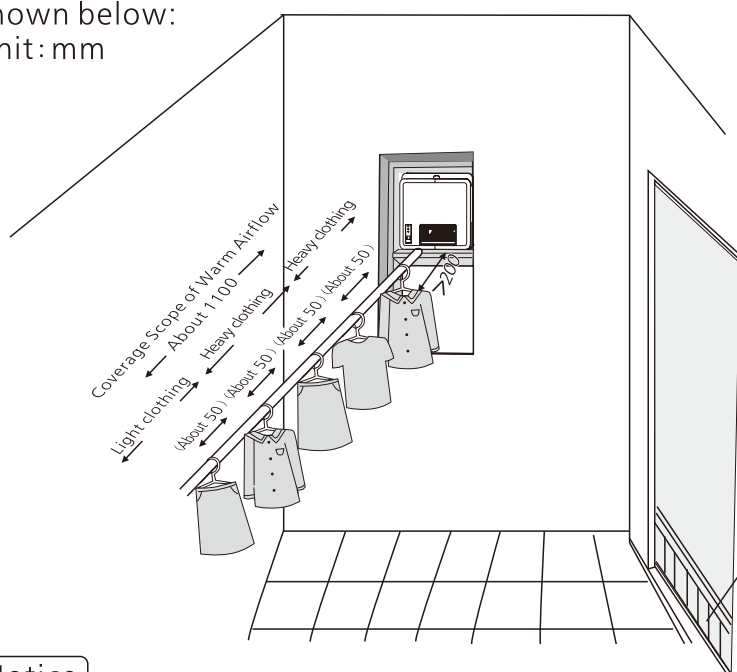
③ This product will stop automatically when the set time is up.

④ To stop midway in running, press the .

※ In the DRY HOT mode running for 30 seconds above, press the  button to stop the heater. The fan will stop running after a delay of about 10 seconds.

To use the drying function to dry clothes, you are suggested to install the product as shown below:

Unit: mm



To make the effect of drying clothes better, please set a ventilation shutter at the lower part of the door with a valid opening area of 100 cm² or above.

Notice

- When water drops remain on the bathroom walls or the floor, the clothes drying time will be prolonged. Use a dry cloth to wipe away water drops in advance.
- To spread the warm airflow throughout the bathroom, keep a space (more than 50 mm) between clothes.
- Hang heavy clothing near the warm airflow outlet to dry them more quickly.
- The clothes must be 200 mm or above away from the air outlet. (The clothes may be discolored if the distance is too short.)
- The clothes at the back end of the clothesline pole cannot be dried quickly. In the midway of drying, you can swap the positions of fast-drying clothes near the product with those at the back end. (In the case of Auto air direction, the scope of about 1100 mm at the center is easily reached by the airflow, as shown in the above figure.)
- Do not hang the clothes on product directly to dry.
- The drying time varies with the bathroom size and type, room temperature, outside temperature and humidity, clothes types and quantities, and the dewatering status.
- Since the product performance cannot be fully brought into play in the bathroom with poor airtight and heat resistance, you need to set a longer drying time.

HOW TO USE DRY HOT/COOL FUNCTION

Notice

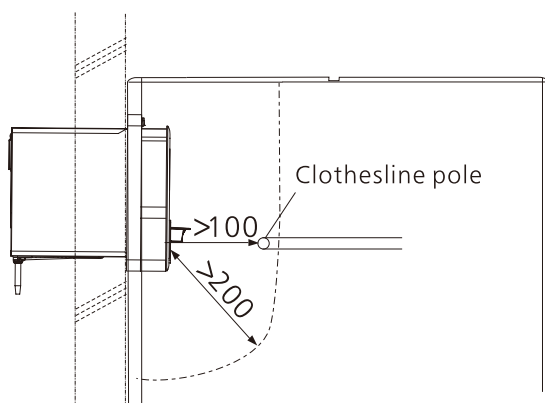
- When you dry clothes, make sure that the air blows to the clothes.
- Condensation may happen as this is natural phenomenon due to specific weather and bathroom condition. It is recommended to use Ventilation mode to remove excess moisture after clothes drying.

Installing the clothesline pole

Cautions for Installing clothesline pole:

- Do not hang the clothesline pole on product directly.
- Be sure to install clothesline poles at the recommended position.
(The drying time will be prolonged if you install them at other positions.)
- Do not set the clothes hook in an inclined condition. (Otherwise the distance of 200 mm away from the main body may not be insured.)
- Make sure that the clothes rail and the product maintain a distance of more than 100 mm.

Unit: mm



! WARNING



This appliance is intended only for drying textiles washed in water. Otherwise, it may cause injury.

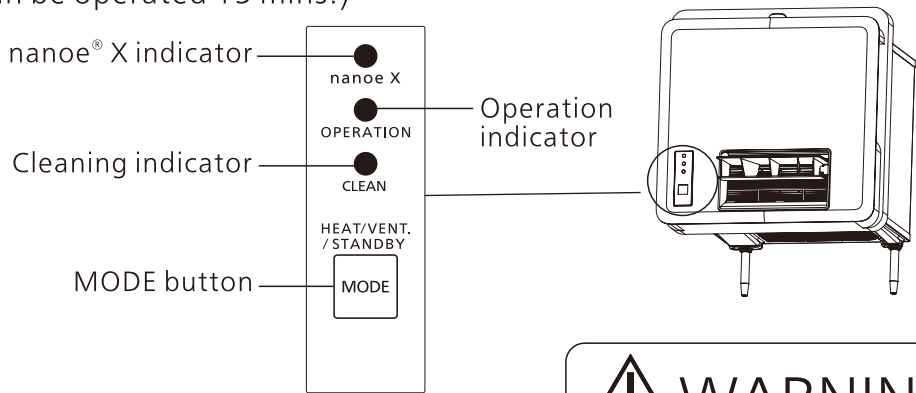
! CAUTION



Do not leave clothes too close to the air outlet. Otherwise, a fire may be caused.

MODE BUTTON PANEL ON MAIN BODY

When the remote control is lost or does not work, you can use the MODE button panel on the front surface of the main body to operate the product.
(Each time can be operated 15 mins.)



The MODE button can be used to switch among the following functions:

→ HEAT (HI) → VENT. (HI) → STANDBY

**WARNING**

Do not press the MODE button during a bath or shower in the bathroom. Otherwise, you may slip.

Conditions of the cleaning indicator and operation indicator.

Operation Status	Cleaning indicator	Operation indicator
Stop	Off	Off
Normal operation	Off	On
Abnormal operation	Off	Blinking fast ^{※1}
Normal operation + Cleaning indication	Blinking fast ^{※1}	On
	On	On
During the hot startup	Off	Blinking slow ^{※2}

The product error means that a fault occurs or the main body fails to operate normally, when the operation indicator blinks quickly or cleaning indicator lights on. Please disconnect the power supply, and contact customer consultation service center or your distributor.

※1 Blinking fast: On for 0.5 seconds and off for 0.5 seconds
※2 Blinking slow: On for 1.5 second and off for 1.5 second

USE AND MAINTENANCE INSTRUCTIONS

WARNING

- To avoid low-temperature scalding, do not directly below the same part of the body with hot wind for a long time (2 hours or above).



Doing this may lead to low-temperature scald.

- 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 clean the heating part or let water flow into the electric motor or electrical parts.



Failure to following this may lead to electric shock.

- Do not throw the batteries into fire, or heat, disassemble or modify batteries. Do not expose the batteries to excessively high temperatures. Be aware of the risk of terminals of the battery-operated appliance or battery being short-circuited by metal objects.



If the insulation or exhaust valve is damaged, the battery may leak, heat up or rupture.

- 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.

- Do not store the batteries within the reach of children or infants.



Swallowing may cause chemical burns, soft tissue perforation, or even death. Severe burns may be caused within 2 hours upon ingestion. If the battery is swallowed, seek medical help immediately.

- Remove the batteries from the remote control when they are discharged or not used for an extended period of time.



Otherwise, the battery may leak, heat up or rupture.

- If the alkaline liquid of battery enter eyes, clean the eyes with lots of water and seek medical help immediately, but not rub eyes with hands.



Otherwise, it may cause blindness, 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.

- Please observe the following when using the batteries.

- Do not inversely install the positive pole and negative pole of batteries.
- Do not short circuit.
- Do not charge non-rechargeable batteries.
- Do not use any repaired or damaged batteries.



Otherwise, leakage or damage may be caused.

USE AND MAINTENANCE INSTRUCTIONS

WARNING

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



This product may cause injuries once it falls off.

- 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.

- Do not disassemble this product for repair or reconstruction.



Doing this may lead to fire and electric shock.

- 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.

CAUTION

- When you clean this product, please wear gloves.



Failure to follow this may lead to unexpected injury.

- Do not swing the baffle plate when the product is electrified.



Failure to follow this may lead to unexpected injury.

Notice

1. Do not swing the baffle plate when the product is electrified, otherwise the baffle plate may operate in inaccurate angles.
When the baffle plate cannot be reset completely, you can press the STANDBY button immediately after pressing the DRY COOL button. Then, the baffle plate will be reset by a small angle. Repeat the operation until the baffle plate is reset completely.
2. The applicable ambient temperature of this product is in the range of $-10^{\circ}\text{C} \sim 40^{\circ}\text{C}$, using it out of this range may cause a fault.
3. Please stop operating the product during typhoon or similar weather with strong wind and rain.

HOW TO MAINTENANCE

Cleaning Precautions

Cleaning the louver:

1. To prevent color change and accelerated aging of the panel, do not use any type of diluent, alkaline cleaner, benzene, alcohol, antiseptic, or steel ball as shown in the figure.
2. To use a chemical cloth, clean this product by following the instructions.



HOW TO MAINTENANCE

Cleaning Precautions

Cleaning the filter:

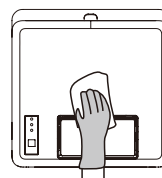
1. Do not use any type of diluent, alkaline cleaner, benzene, alcohol, antiseptic, or steel ball as shown in the figure. (P. 21)
2. When the cleaning indicator at the mode button panel on main body blinks, it is time to clean the filter according to setting of the main body. You need to clean the filter. (When the accumulated running duration reaches 2,200 hours (continuous running about three months), the cleaning indicator will blink.)
3. To prevent dust accumulation in the filter which may block the air inlet, be sure to clean the filter before starting the product when product has not been in use for a period of time, even if the cleaning indicator does not blink. Also, when the product is not often used, clean the filter regularly even if the cleaning indicator does not blink.

Cleaning the main body:

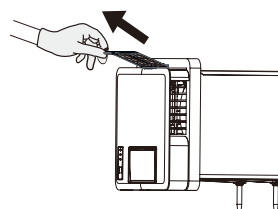
1. Do not disassemble the unit for cleaning by yourself.
2. When the cleaning indicator at the mode button panel on main body lights on, it is time to clean the main body according to setting of the main body. Please contact customer consultation service center or arrange for a qualified technician to clean the main body. (When the accumulated running duration reaches 8,800 hours (continuous running about one year), the cleaning indicator will light on.)

① Shut off the all-pole switch.

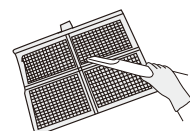
② Wipe the front panel and the panel base with a soft cloth.



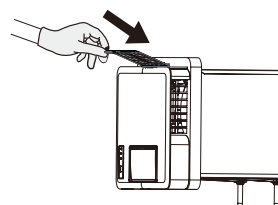
③ Remove the filter assembly from the slant upward side of louver assembly.



④ Use a vacuum cleaner to remove dust and dirt from the filter.



⑤ Reinstall the filter assembly.



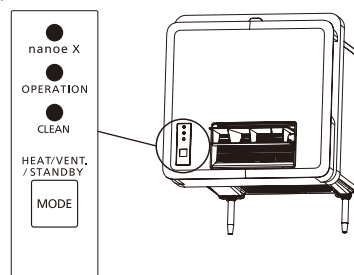
⑥ Turn on the all-pole switch.

HOW TO MAINTENANCE

⑦ Clear the cleaning indication at the mode button panel on main body.

※ Each time cleaning the filter or the main body, you are advised to reset the accumulated time of the cleaning indication.

- Press and hold the MODE button or  button of remote control for about 3 seconds, then releasing the button, a “beep” sound means the resetting is done, the accumulated time of the filter cleaning indication will be reset.
- Press and hold the MODE button or  button of remote control for about 10 seconds, a “beep” sound means the resetting is done, the accumulated time of the main body cleaning indication will be reset.



ANTIBACTERIAL FUNCTION

- ※ The filter mesh in the filter mesh assembly provides the antibacterial function, with the antibacterial ratio against staphylococcus aureus and the antibacterial ratio against colibacillus up to 99.9% respectively (test basis: JIS Z2801)
- ※ As the use time increases, the antibacterial performance of the filter mesh will decrease accordingly.

STERILIZATION PERFORMANCE

■ Sterilization performance

Report No.: JKK26070036

Test object: Staphylococcus albus (8032)

Sterilization mode: nanoe® X sterilization

Test result: see the form below

Test basis: Q/GPS 010 Appendix D Sterilization performance test method

Test microorganism	Test time	Test times	Total number of bacteria in the air (CFU/m ³)	Sterilization rate (%)
Staphylococcus albus 8032	0 (CK)	1	1.09×10^5	
		2	1.02×10^5	
		3	1.14×10^5	
	1 h	1	2.69×10^3	96.26
		2	2.58×10^3	96.39
		3	3.22×10^3	95.98
	Average			96.21
	2 h	1	64	99.88
		2	49	99.91
		3	85	99.85
	Average			99.88

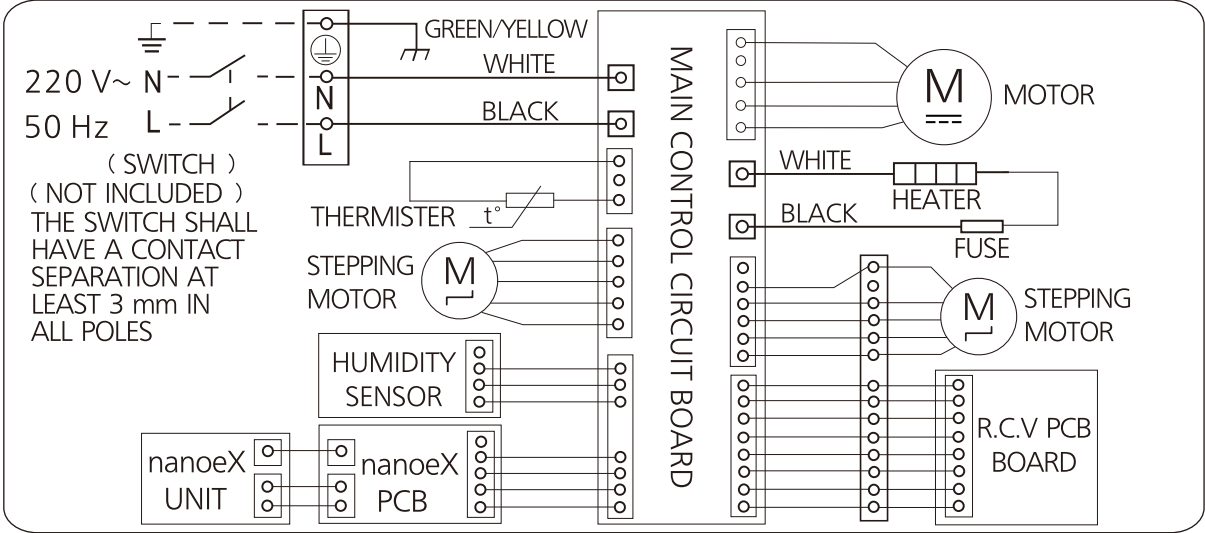
■ The above test values are only the test result of third-party test organization.

TROUBLESHOOTING

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

	Symptom	Cause	Troubleshooting
Air	No hot wind blow out	The heater may fail	Contact customer consultation service center or your distributor
	Air volume reduced	The filter may be blocked	Clean the filter
Remote control	Remote control does not work	The batteries may be exhausted	Replace the batteries
Mode button panel on main body	The cleaning indicator blinks quickly	It's time to clean the filter	Clean the filter
	The running indicator blinks quickly	The product is error	Contact customer consultation service center or your distributor
	The cleaning indicator lights on	It's time to clean the main body	Contact customer consultation service center or arrange for a qualified technician to clean the main body
Main body	Rain water enter into bathroom	The drain pipe may be blocked or installation problem	Contact customer consultation service center or your distributor

WIRING DIAGRAM



SPECIFICATIONS

Model No.	Rated Voltage [V]	Rated Frequency [Hz]	Power Consumption [W]	Rated Current [A]	Air Volume [m ³ /h]	Weight [kg]
FV-23BWN3H	220	50	1400	6.36	260	4.7

Power Consumption [W]								Noise [dB(A)]						
Heat		Dry		Vent.			nanoe X	Heat		Dry		Vent.		
HI	LO	Hot	Cool	SUPER HI	HI	LO		HI	LO	Hot	Cool	SUPER HI	HI	LO
1400	1300	1400	19	26	15	3.3	12.3	49	43	49	49	46	42	21

- Power consumption and rated current are obtained when the baffle plate is at maximum opening angle.
- Air volume, electric specification 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(A) to -7 dB(A). 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 and remote control comply with the IPX4 requirement against the water shower test.
- Insulation class E

The above specification may be changed without further notice.

CHECKS AFTER INSTALLATION

Check the following items before trial operation.
Be sure to put a tick mark in the corresponding tick box ☑.
Perform trial operation after making these checks.

- (1) Product installation check Reference page
 - ☐Is the main unit installed securely, without looseness? Page 7~8
 - ☐Are the product inlet and outlet kept unblocked? Page 12
 - ☐Is the self- tapping screwø 4x25 fixed the main body from inner?..... Page 8

- (2) Electrical work check
 - ☐Is an earth leakage circuit breaker installed in the power supply? Page 7
 - ☐Is a 220 VAC single- phase used for the power supply? Page 24
 - ☐Is the wiring connected according to the wiring diagram?..... Page 8, 24
 - ☐Are the power cable connected to the terminal block without looseness?
..... Page 8
 - ☐Is the connected wiring secured with cable clips? Page 9
 - ☐Is the earth connected? Page 2,8
 - ☐Is there enough spare in length for power cord (for easy installation,
removal and maintenance) ? Page 6

*To prevent initial problems, be sure to perform the post- installation checks before hand- over to the customer.