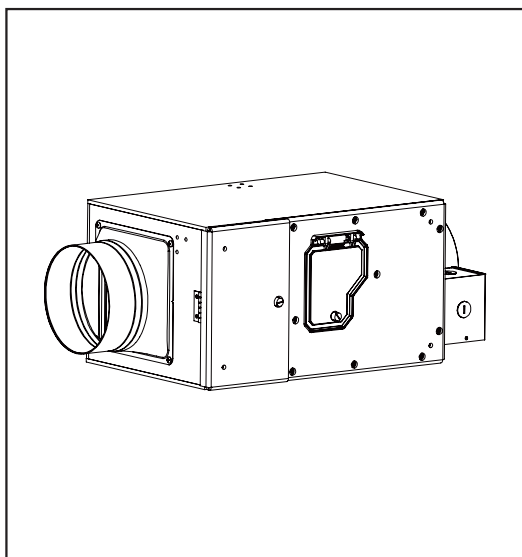


Installation and Operating Instructions

In-Line Fan

Model No. FV-15NLFS1



CONTENTS

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| GENERAL SAFETY INFORMATION | 2~4 |
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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" (P.2~4) of this manual before use. 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.



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 death or serious injury. |
|  CAUTION | Denotes a hazard that could result in minor injury. |
| <i>NOTICE</i> | 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 not be performed. |
|  | This symbol is used to alert users to a specific operating procedure that must be followed in order to operate the product safely. |
|  | 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 PERSONAL INJURY, OBSERVE THE FOLLOWING :

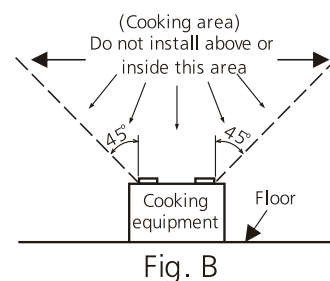
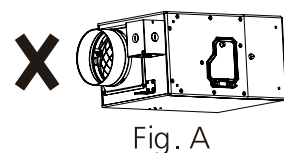
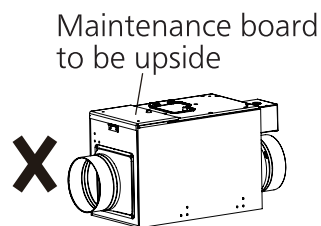
-  Do not use this product with any solid-state control device. Solid-state controls may cause harmonic distortion which can cause motor humming noise.
-  Do not install with a method which is not approved in the instructions.
-  Do not disassemble the product for reconstruction. It may cause fire or electric shock.
-  Use this unit only in the manner intended by the manufacturer. If you have any questions, contact the manufacturer.
-  Before servicing or cleaning product, switch power off in control box 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.

GENERAL SAFETY INFORMATION

- ! Sufficient air is needed for proper combustion and exhausting of gases through the flue (chimney) of fuel burning equipment to prevent backdrafting. 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 for Heating Refrigeration and Air Conditioning Engineers (ASHRAE) and the local code authorities.
- ! When cutting or drilling into ceiling, do not damage metal objects, electrical wiring and other hidden utilities.
- ! Ducted fans must always be vented to the outdoors.
- ! Ceiling must be able to withstand a static load of more than five times the weight of the product.
- ! When the product is no longer to be used, it must be removed and not left in place, to prevent it from possibly falling.
- ! Never place a switch where it can be reached from a tub or shower.
- ! The product must be properly grounded.


CAUTION


- ⊘ Do not kink the supply wiring.
- ⊘ Do not install the product as shown in Figure A, with the maintenance board on the top side or with the brackets to the bottom. Otherwise, it may cause electric shock. (Fig.A)
- ⊘ Not for use in cooking area. (Fig.B)
- ! Install this product in the area where the temperature is between 14 °F (-10 °C)~104 °F (40 °C).
- ! Special-purpose or dedicated parts, such as mounting fixtures, must be used if such parts are provided.
- ! Make certain 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 Act (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.
- ! Put the product on the hanger securely. Otherwise, it may drop.




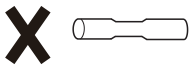
GENERAL SAFETY INFORMATION


NOTICE

- 

Do not install the product where ducts are configured as shown below.
- 







- Excessive bending

Successive bending

Squeezed duct

Bend close to duct adaptor
- 

Install a proper termination fitting at the air inlet to prevent rain or other foreign matter from entering interfering with the product.





DESCRIPTION

This product uses 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 with saving energy. The blower uses a high-capacity sirocco fan developed to reduce the noise level.

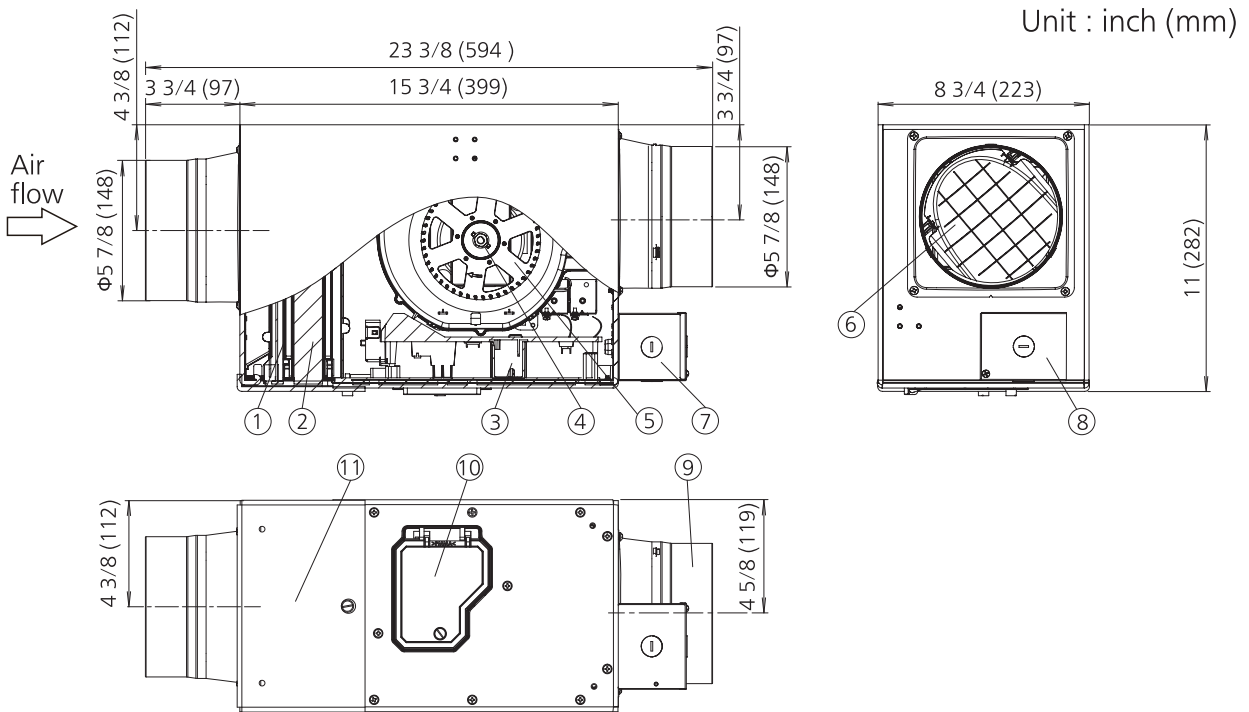
UNPACKING

Unpack and remove product carefully from carton.
Refer to the supplied accessories list to verify that all parts are present.

SUPPLIED ACCESSORIES

| Part name | Appearance | Quantity |
|---|---|----------|
| Hanger |  | 3 |
| Screw (M4X8) |  | 10 |
| Installation and operating instructions |  | 1 |
| Limited warranty |  | 1 |

DIMENSIONS

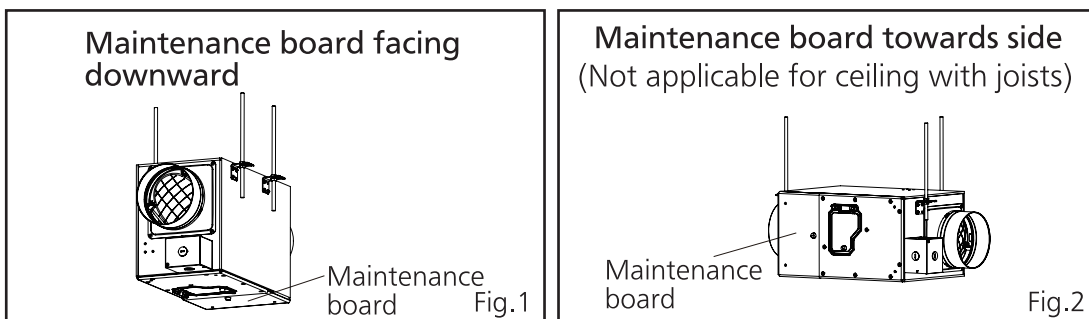


| No. | Part name | No. | Part name |
|-----|----------------|-----|--------------------|
| ① | Pre-filter | ⑦ | Junction box |
| ② | Primary filter | ⑧ | Junction box cover |
| ③ | Main PCB | ⑨ | Adaptor |
| ④ | Motor | ⑩ | Control box cover |
| ⑤ | Sirocco fan | ⑪ | Maintenance board |
| ⑥ | Damper | | |

INSTALLATION

Before installing please choose the installation direction.

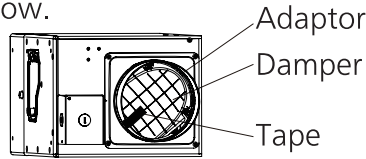
You can install the product with maintenance board facing downward or to the side. (Fig.1, Fig.2) If there are joists on ceiling, you should install it with the maintenance board facing downward, otherwise you will be unable to maintain the filter.



INSTALLATION

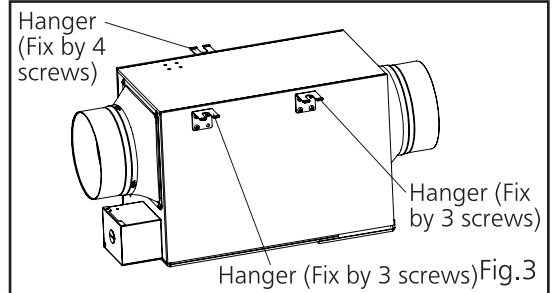
IMPORTANT:

Please remove the tape, which protects the damper during shipping and installation, from the duct adaptor as shown below.

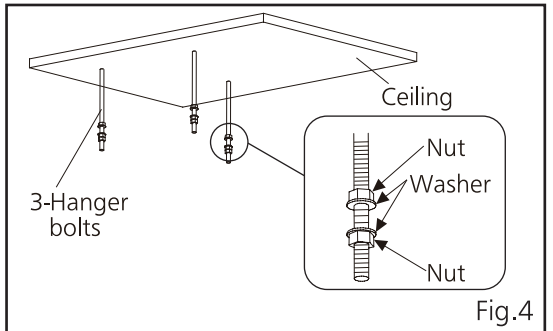
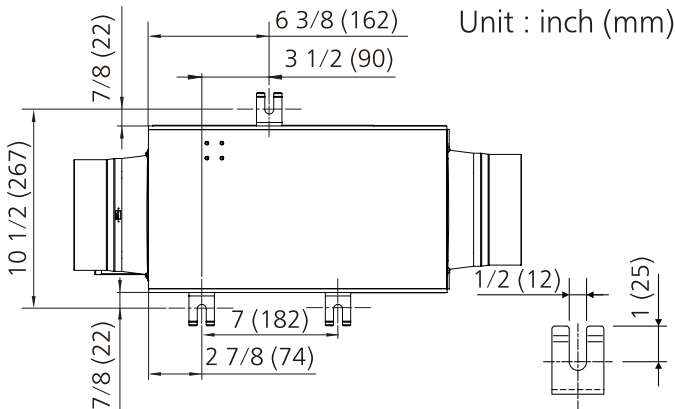


1-1 Install with the maintenance board facing downward

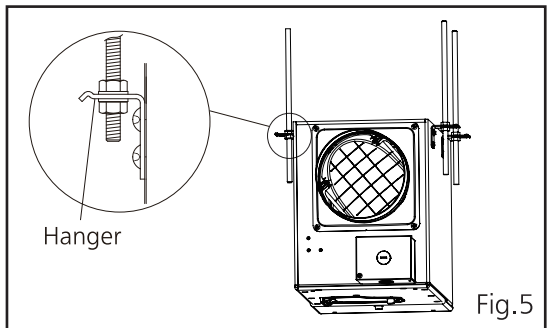
1. Fix the hangers (3 pcs) on fan body by screws. (Fig.3)



2. Install hanger bolts on ceiling, and put washers and nuts on bolts. (Hanger bolt, nut and washer should be M8-M10 and are not provided.) (Fig.4)



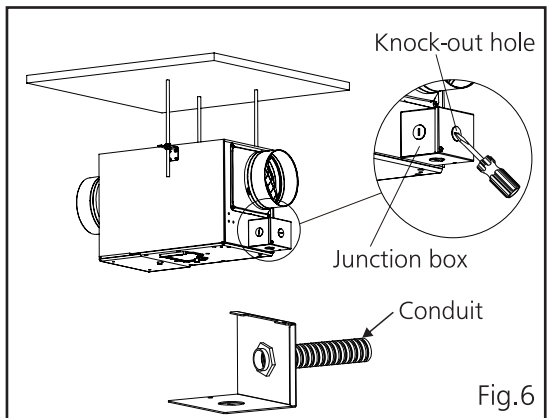
3. Install the product on hanger bolts and fix the nuts tightly. (Fig.5)



Note

Please use a spirit level to adjust the body, to ensure that the height of the three hangers within ± 2 mm.

4. Remove junction box cover and secure conduit or stress relief to junction box knock-out hole. (Fig.6)



INSTALLATION

5. Refer to wiring diagram (Page 12), follow all the local electrical safety codes as well as the National Electrical Code (NEC). Using UL approved wire connectors, connect house power wires to fan wires. (Fig.7)

6. Replace the junction box cover.



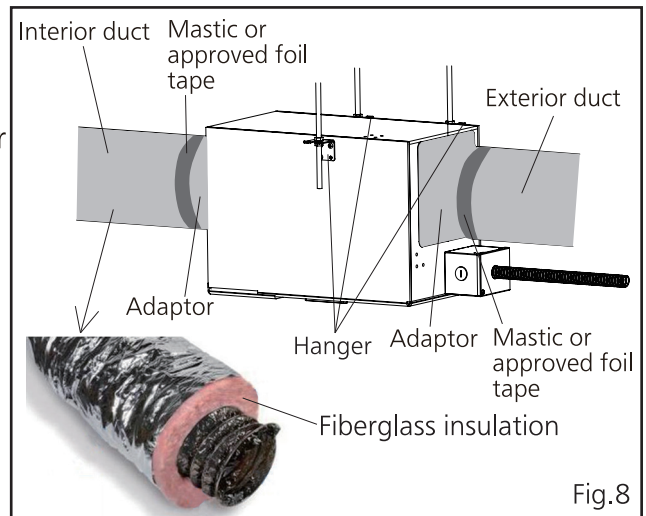
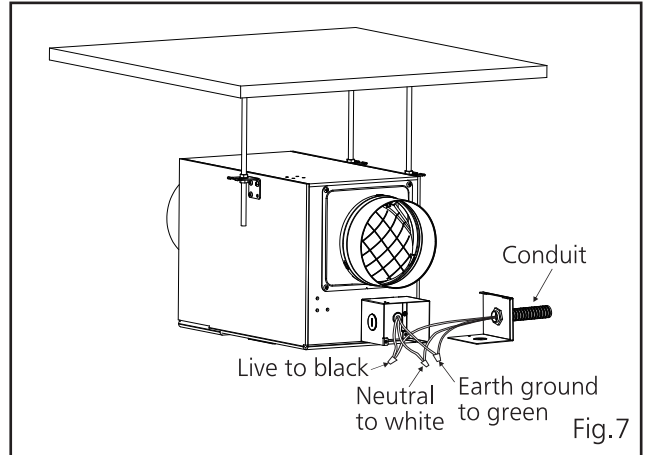
Mount junction box cover carefully so that lead wires are not pinched.

7. Install $\Phi 6$ inch ducts.

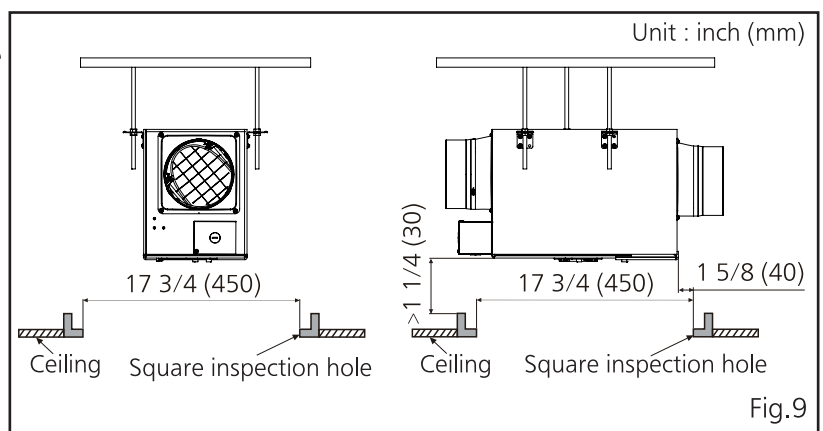
(1) Connect the circular duct (suggest using the insulated flexible duct) to adaptor by mastic or approved foil tape. Place/wrap insulation around duct and/or fan in order to minimize possible condensation buildup within the duct. (Fig.8)

Note

Install the exterior duct with a declining slope toward outer side at least 1/100. Install the interior duct with a declining slope toward inner side at least 1/100. (Fig.8)



8. Set a square inspection hole of 450 mm or more under the maintenance board. (Fig.9)



9. Unfasten the hand screw, open the maintenance board, and pull out the primary filter. Fill in the start date on the filter, the reinstall. (Refer Fig.15~17 on P.10~11)

INSTALLATION

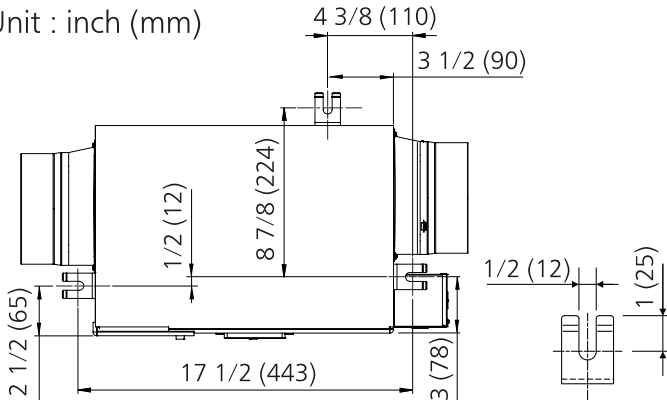
1-2 Install with the maintenance board towards side

Note

This method is not applicable for ceiling with joists.

1. Fix the hangers (3 pcs) on fan body by screws. (Fig.10)
2. Install hanger bolts on ceiling, and put washers and nuts on bolts. (Hanger bolt, nut and washer should be M8-M10 and are not provided.) (Fig.11)

Unit : inch (mm)



3. Install the product on hanger bolts and fix the nuts tightly. (Fig.12)

Note

Please use a spirit level to adjust the body, to ensure that the height of the three hangers is within ± 2 mm, and hanger bolt do not touch junction box (≥ 10 mm).

4. Connect house power wires to fan wires. (It is same with step 4~6 on P.6~7)
5. Install the ducts. (It is same with step 7 in P.7)

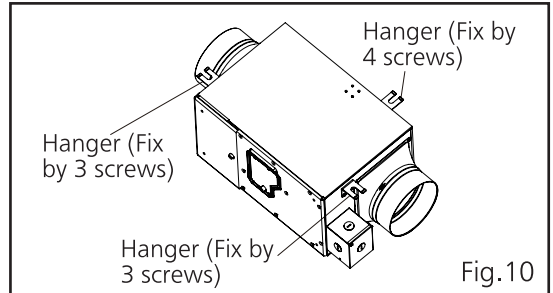


Fig.10

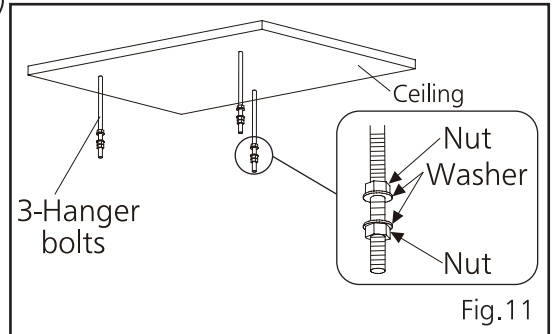


Fig.11

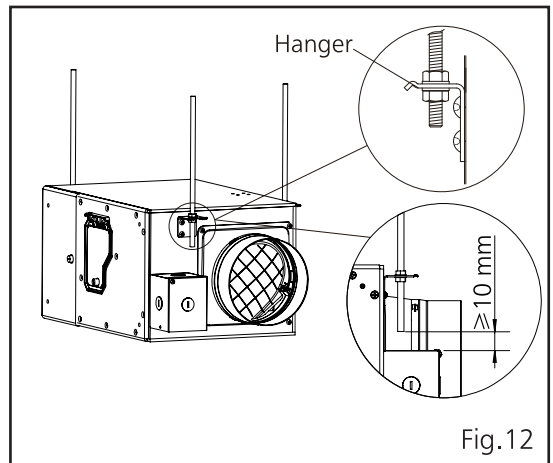


Fig.12

6. Set an square inspection hole of 450 mm or more beside and below the maintenance board. (Fig.13)

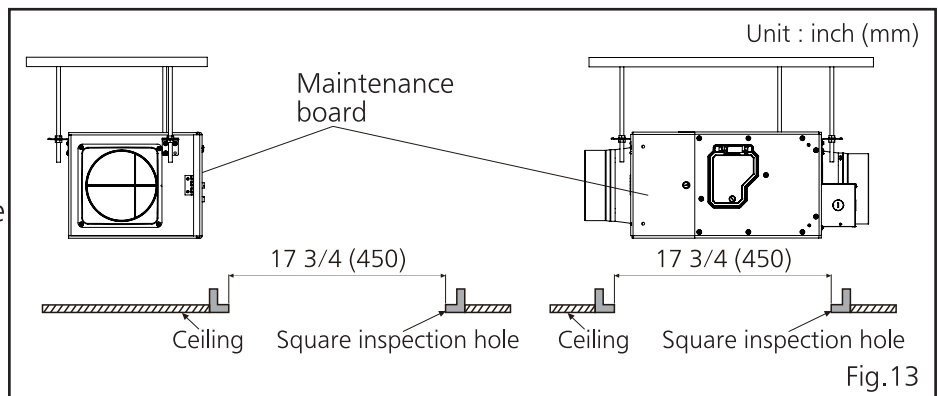
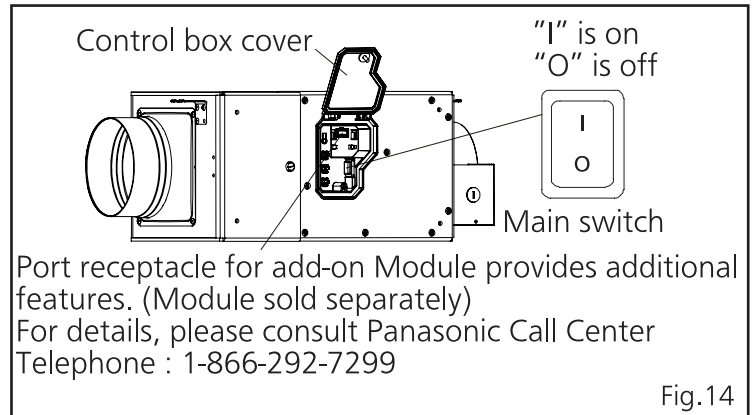


Fig.13

7. Unfasten the hand screw, open the maintenance board, and pull out the primary filter. Fill in the start date on the filter, and reinstall. (Refer Fig.15~17 on P.10~11)

OPERATION

Open the control box cover and turn on the main switch. (Fig.14)



Control panel

① Running indicator

When the indicator is green, indicates the product is running.

② Filter indicator

The indicator will light red when the accumulated running time is up to 90 days. When the indicator is on (with buzzer sound), indicates time to maintain filters.

Note

- (1) The indicator will be on when the product accumulated running time reaches to 90 days. The buzzer will sound for 10 seconds every hour.
- (2) If you want to turn off the buzzer, press and hold the filter reset button for about 3 seconds until you hear a long beeping sound. If you press and hold the filter reset button for another 3 seconds until you hear 2 quick beeps, the buzzer will be turned back on.
- (3) If you want to cancel buzzer sound when sleeping, you just need to turn off the wall switch. The buzzer will continue to sound when the product is turned back on and will not stop until the filter has been maintained and the filter alarm has been reset.
- (4) When the running indicator or filter indicator blinks, this indicates a problem with the product.

③ Filter reset button

Press the button after filter maintenance for resetting accumulated running time and the filter indicator will light off, the buzzer will turn off.

④ Air volume dial switch

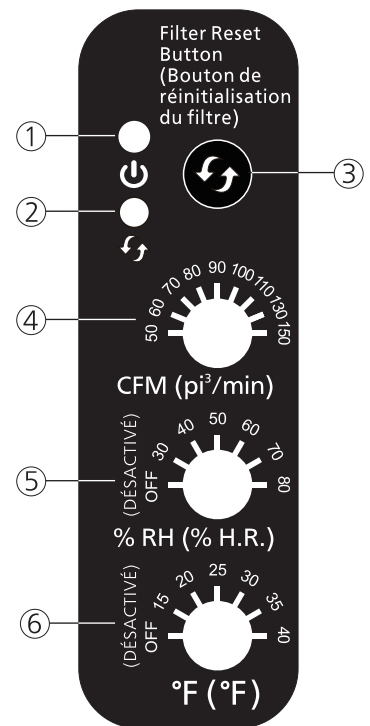
Adjusting the product air volume by this dial switch, you can choose 50, 60, 70, 80, 90, 100, 110, 130, 150 CFM.

- Default setting : 80 CFM

⑤ Humidity dial switch

Adjusting the humidity protection value of the product by this dial switch, you can choose from 30 %RH~80 %RH (stepless) or turned to OFF position.

- Default setting : 80 %RH
- If the humidity inside the product detected by the sensor is greater than the setting value, the fan will stop for 60 minutes. After 60 minutes, the product will begin to run or remain stopped, based on the value detected by the sensor.
- If the switch is turned to OFF position, the humidity sensor detection function will be disabled.



OPERATION

⑥ Temperature dial switch

Adjusting the temperature protection value of the product by this dial switch, you can choose 15 °F~40 °F (stepless) or turned to OFF position.

- Default setting : 15 °F
- Low temperature protection.

If the temperature inside the product detected by the sensor is lower than the setting value, the fan will stop for 60 minutes. After 60 minutes the product will begin to run or remain stopped based on the value detected by the sensor.

- High temperature protection.

If the temperature inside the product detected by the sensor is higher than 95 °F (35 °C), the fan will stop for 60 minutes. After 60 minutes the product will begin to run or remain stopped based on the value detected by the sensor.

- If the switch is turned to OFF position, the temperature sensor detection function will be disabled.

Note

The humidity and temperature value detected by sensor may be different from outside.

MAINTENANCE

! CAUTION

- ! To avoid injury or electric shock, turn off the main switch in control box to stop the fan before checking, cleaning or replacing filter.
- ! To ensure product runs normally, routine maintenance must be performed every 3 months.
- ! Please wear gloves to avoid pinching fingers during maintenance.
- ! When cleaning or replacing filters, dust, insects, etc. attached on the filters may fall. please wear proper protective equipment.

1. ① Open the control box cover by turning the hand screw counterclockwise. (Fig.15)
- ② Turn off main switch. (Fig.15)
- ③ Open the maintenance board by turning the hand screw counterclockwise. (Fig.15)

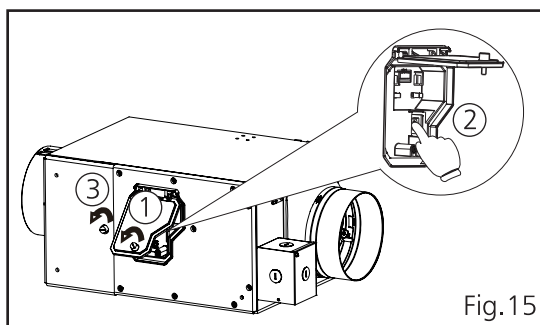


Fig.15

2. Pull out the pre-filter, clean it with water once in 3 months when filter indicator lights on with buzzer sound. (Fig.16)

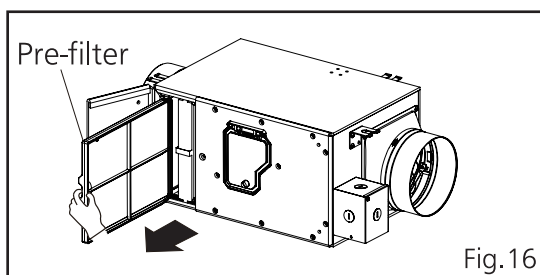


Fig.16

MAINTENANCE

3. Pull out the primary filter, clean it with vacuum cleaner once in 3 months when filter indicator lights on with buzzer sound. Replace it once in 6 months when filter indicator lights on with buzzer sound. (Fig.17)

Please fill in beginning time on new filter before replacing.

Note

Please replace primary filter by Panasonic Model FV-FL0815NL1 or FV-FL1315NL1. If you do not use the Panasonic filter will result in poor performance.

4. Reinstall the filters and close the maintenance board by turning the hand screw clockwise. Please make sure that the arrow direction on primary filter is same as the "Air flow" mark on name plate. (Fig.17)
5. Turn ON the main switch and press the filter reset button. The filter indicator light and the buzzing sound will turn off. Close the control box cover and turn the hand screw clockwise. (Fig.18)

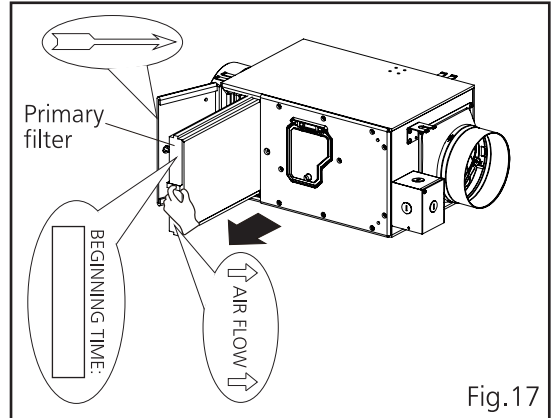


Fig.17

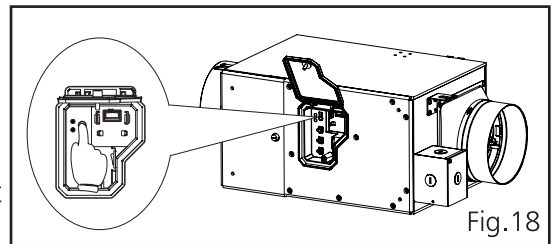


Fig.18

PRACTICAL GUIDE TO INSTALLATION

Properly insulate the area around the fan to minimize building heat loss and gain. (Fig.19) Loose fill or batt insulation can be placed directly over the fan housing in the attic. Our fans and fan/light combination units do not create excessive heat that is a common problem with recessed light fixtures or some competitor's fan/light combination. Our efficient, cool-running motors and our fluorescent lamps 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.

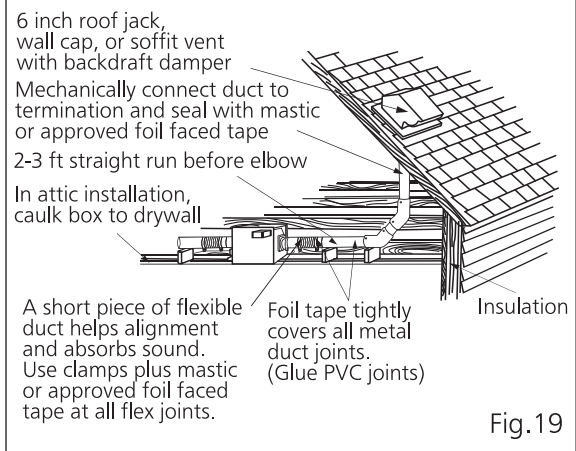


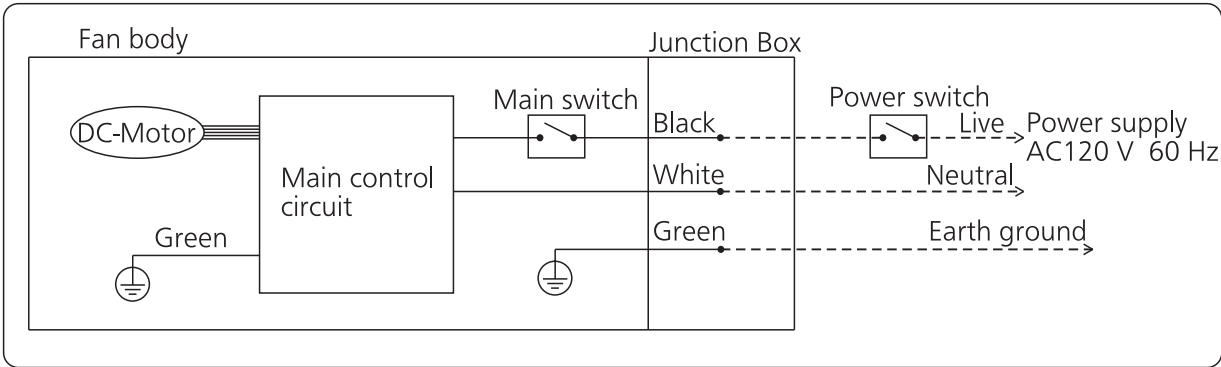
Fig.19

SPECIFICATIONS

| Air direction | Voltage (V) | Frequency (Hz) | Duct (inch) | Static pressure | Air volume (CFM) | Power consumption (W) | Speed (rpm) | Weight lb.(kg) |
|---------------|-------------|----------------|-------------|-----------------|------------------|-----------------------|-------------|----------------|
| Supply | 120 | 60 | 6 | 0.2"WG | 50/50* | 8.2/8* | 989/969* | 13.4 (6.1) |
| | | | | | 60/60* | 9.3/9* | 1012/992* | |
| | | | | | 70/70* | 10/10* | 1033/1022* | |
| | | | | | 80/80* | 12.4/12* | 1067/1030* | |
| | | | | | 90/90* | 13.5/13* | 1086/1056* | |
| | | | | | 100/100* | 15.3/15* | 1121/1101* | |
| | | | | | 110/110* | 16.7/16* | 1152/1122* | |
| | | | | | 130/130* | 22.6/21.5* | 1235/1202* | |
| | | | | | 150/150* | 27.3/27.1* | 1314/1296* | |

Performance based on the MERV13 filter (FV-FL1315NL1), and data with "*" is a reference datas when using the MERV8 filter (FV-FL0815NL1).
Air volume performance based on HVI Procedures 916 and 920.

WIRING DIAGRAM



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 .

Panasonic Corporation of North America

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