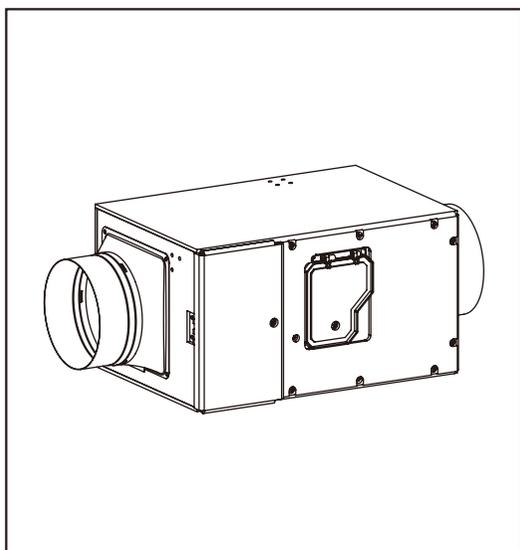


Installation and Operating Instructions

In-Line Fan

Model No. FV-15NLFS1



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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.
NOTICE	Denotes a hazard that could result in property damage.

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

	This symbol is used to alert users to a specific operating procedure that must 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 subjected to static load more than five times the weight of the product.
- ! A statement to the effect that when the product is to no longer be used, it must not be left in place but remove, 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 power cord.
- ⊘ Do not install the product as the directions shown in right. Otherwise, it may cause electric shock. (Fig.A)
- ⊘ Not for use in cooking area. (Fig.B)
- ⊘ This fan shall not be installed behind a suspended floor/ceiling or a structural wall, ceiling, or floor.
- ! Install this product in the area where the temperature is between 14 °F (-10 °C)~104 °F (40 °C).
- ! The 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 or motor.
- ! Protect the power cord from sharp edges, oil, grease, hot surfaces, chemicals or other objects.
- ! Put the product on the hanger securely. Otherwise, it may drop.

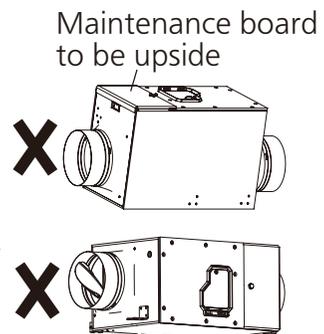


Fig. A

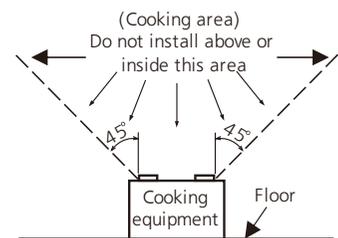


Fig. B

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

 Please install the tube cover or similar items at the air inlet, otherwise it may cause the entry of foreign matter or rain, affecting product performance.

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.

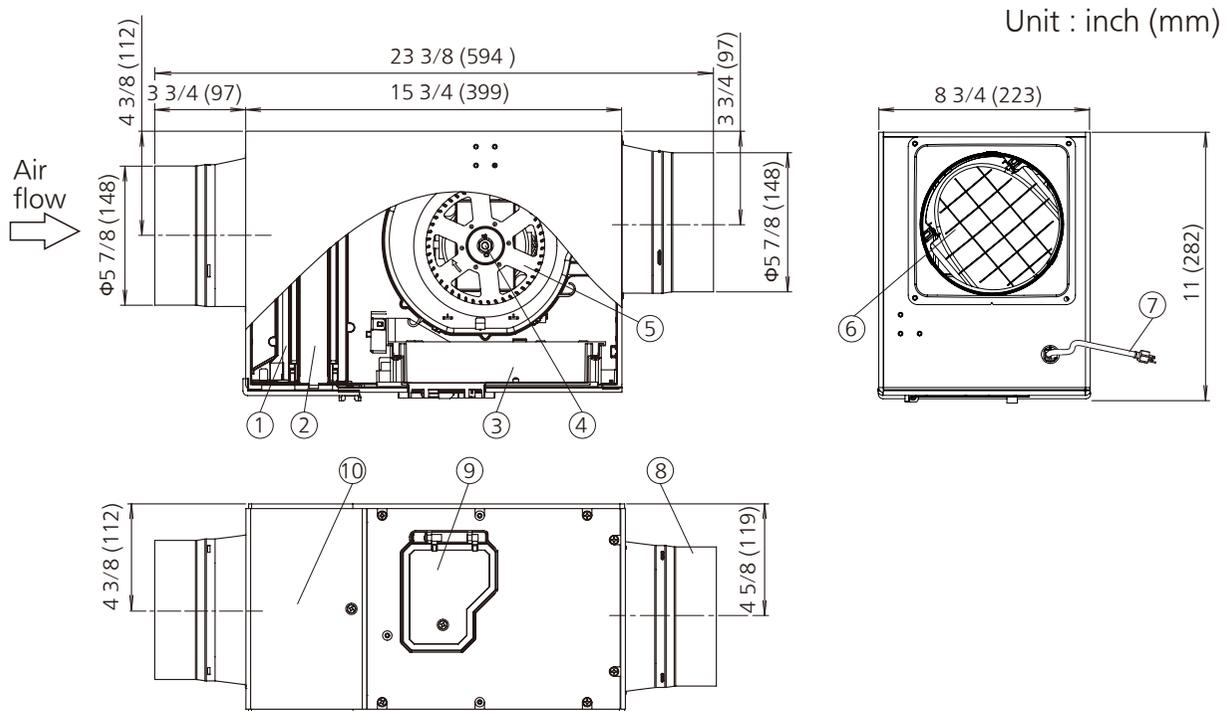
UNPACKING

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

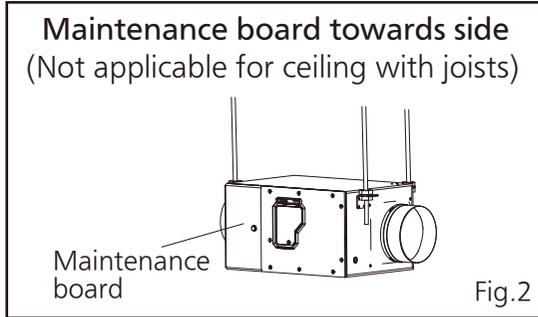
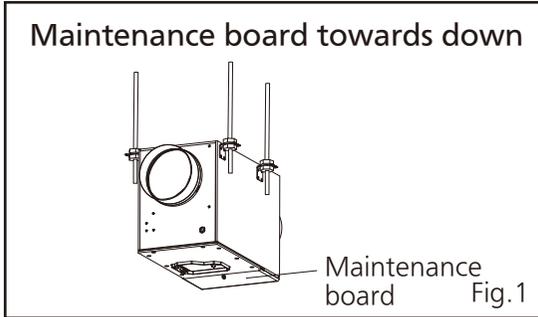


No.	Part name	No.	Part name
①	Pre-filter	⑥	Damper
②	Sub-efficient filter	⑦	Power cord
③	Main PCB	⑧	Adaptor
④	Motor	⑨	Control box cover
⑤	Sirocco fan	⑩	Maintenance board

INSTALLATION

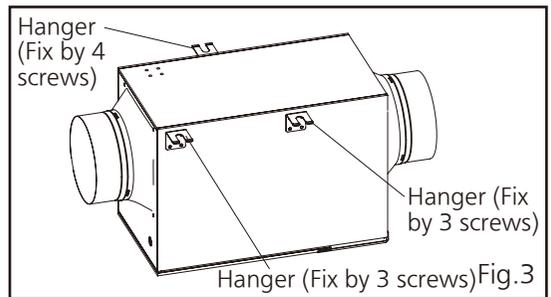
Before installing please choose the installation direction.

You can install the product with maintenance board towards down or towards side. (Fig.1, Fig.2) If there are joists on ceiling, you should install it with the maintenance board towards down, otherwise you may can not to maintain filter.

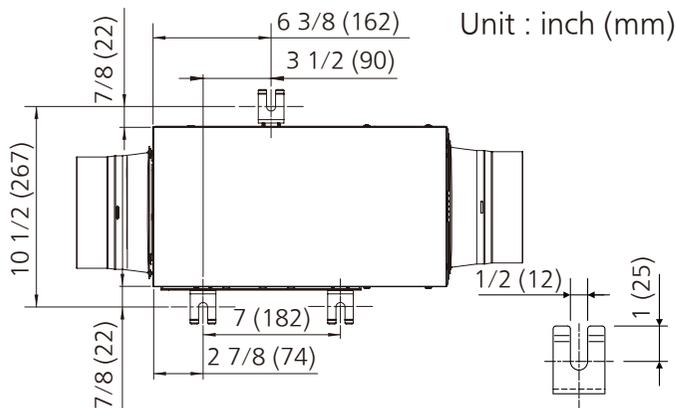
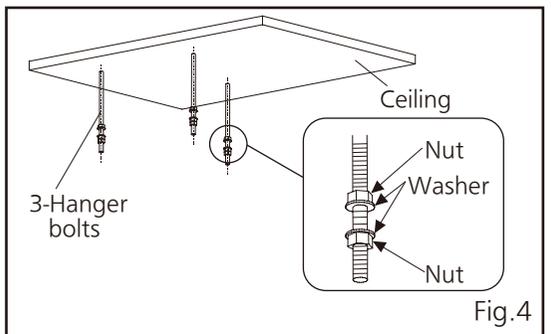


1-1 Install with the maintenance board towards down

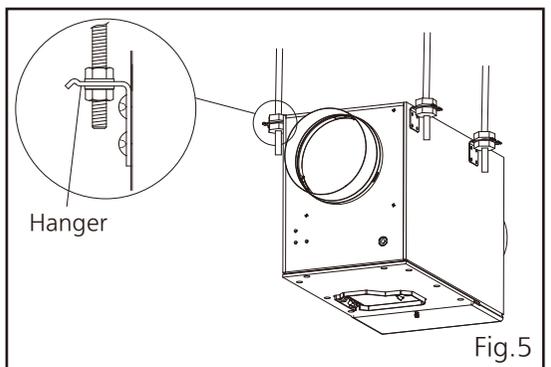
1. Fix the hangers (3 pcs) on fan body by screws. (Fig.3)



2. Install hanger bolts on ceiling, and put washers and nuts on bolts. (Hanger bolt, nut and washer should be M8-M10 and no provided.) (Fig.4)



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



Note

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

INSTALLATION

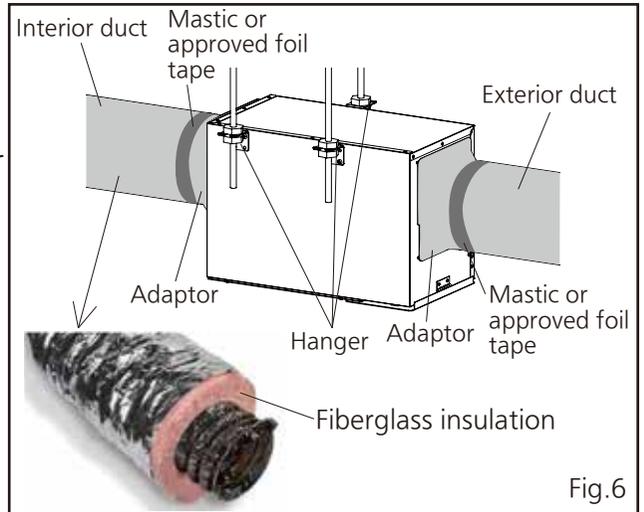
4. Install $\Phi 6$ inch ducts.

(1) Connect the circular duct (suggest using the insulated flexible duct) to adaptor by mastic or approved foil tape.

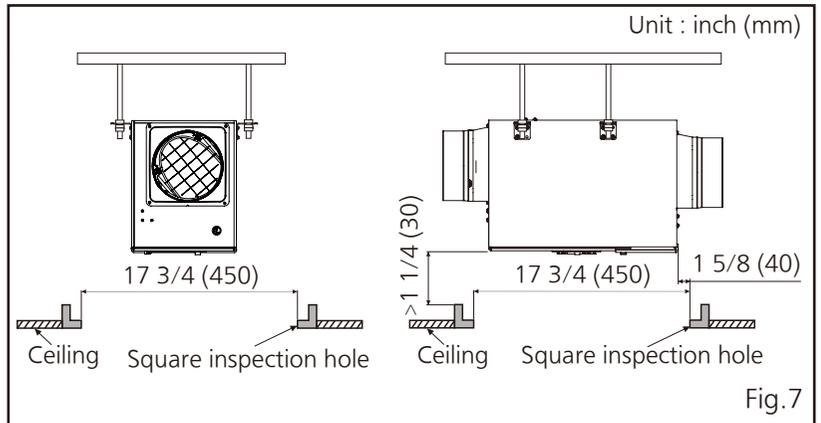
Place/wrap insulation around duct and/or fan in order to minimize possible condensation buildup within the duct. (Fig.6)

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.6)



5. Set an square inspection hole of 450 mm or more under the maintenance board. (Fig.7)



6. Twist hand screw open maintenance board and pull out the sub-efficient filter, fill in beginning time on sub-efficient filter, then install back. (Refer Fig.13~15 on P.10~11)

INSTALLATION

1-2 Install with the maintenance board towards side

Note

This method can not applicable for ceiling with joists.

1. Fix the hangers (3 pcs) on fan body by screws. (Fig.8)
2. Install hanger bolts on ceiling, and put washers and nuts on bolts. (Hanger bolt, nut and washer should be M8-M10 and no provided.) (Fig.9)

Unit : inch (mm)

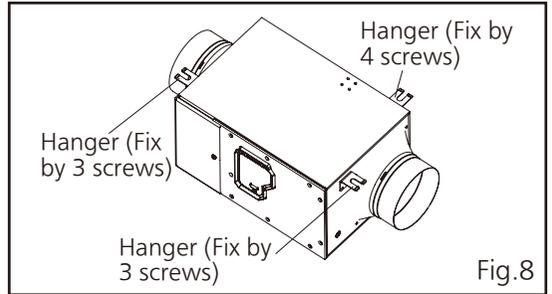
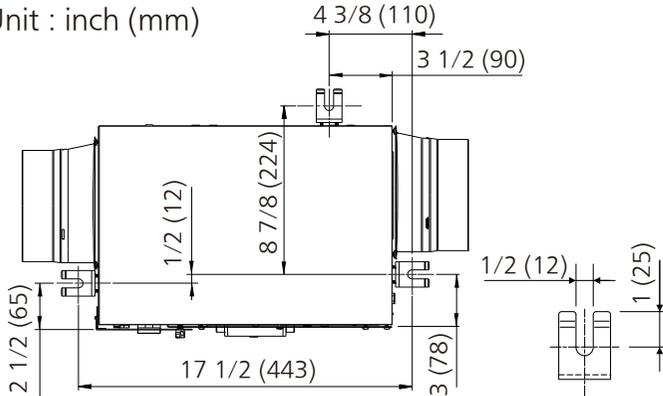


Fig.8

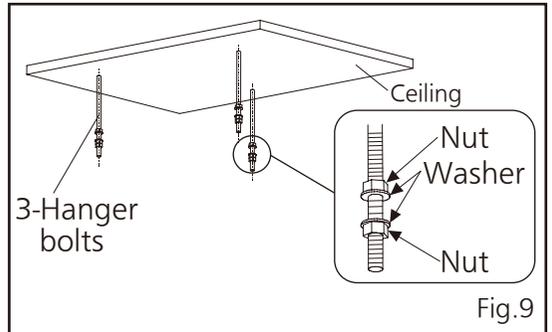


Fig.9

3. Install the product on hanger bolts and fix the nuts tightly. (Fig.10)

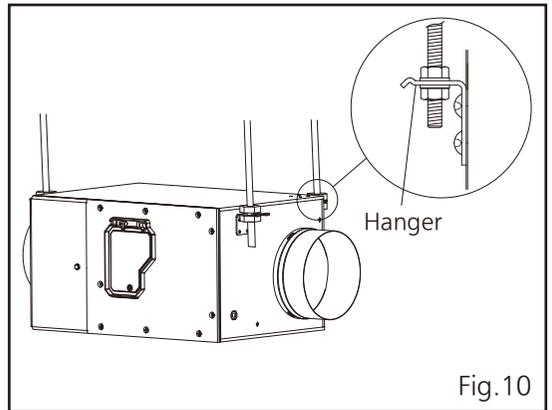


Fig.10

Note

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

4. Install the ducts. (It is same with step 4 in P.7)

5. Set an square inspection hole of 450 mm or more beside and below the maintenance board. (Fig.11)

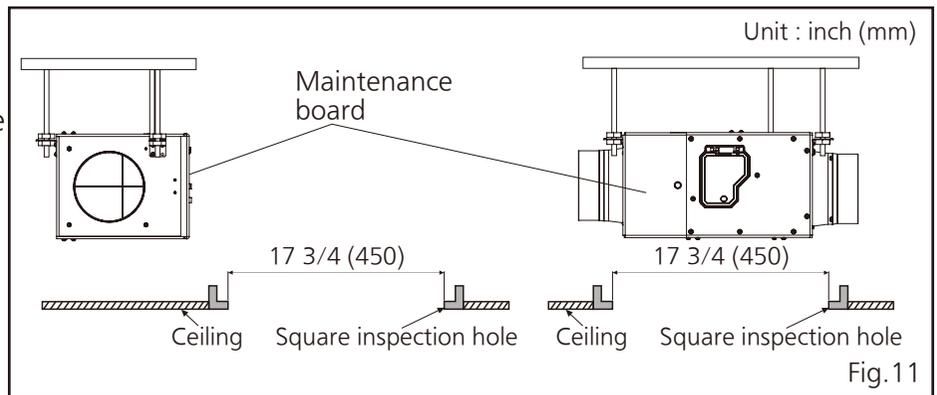
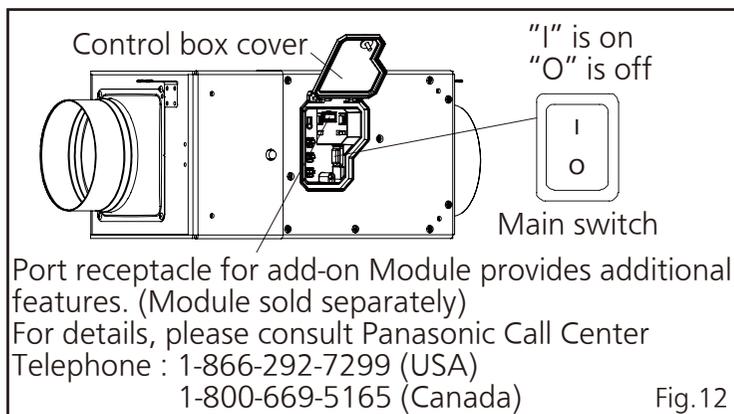


Fig.11

6. Twist hand screw open maintenance board and pull out the sub-efficient filter, fill in beginning time on sub-efficient filter, then install back. (Refer Fig.13~15 on P.10~11)

OPERATION

Insert power cord plug into power socket, then open the control box cover and turn on the main switch. (Fig.12)



Control panel

① Running indicator

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

② Filter indicator

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

Note

- (1)The indicator will be on when the product accumulated running time reaches to 90 days. The buzzer will sound every hour and 10 seconds in an hour.
- (2)If you want to turn off the indication of buzzer, please press filter reset button about 3 seconds until there is the sound of a long beep. Press filter reset button about 3 seconds again until there is sound of two quick beeps, the buzzer indication will be turned on again.
- (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 the running indicator or filter indicator blinks, means the product failure.

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

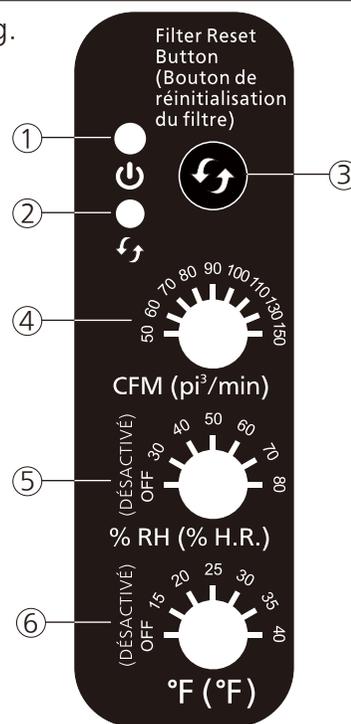
Adjusting the product air volume by this dial switch, you can choose 50, 60, 70, 80, 90, 100, 110, 130, 150 CFM.

- 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 product inside humidity detected by sensor is over than setting value, the fan will stop for 60 minutes, then according to the detected value to determine whether to operate.
- 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
- If the product inside temperature detected by sensor is lower than setting value, the fan will stop for 60 minutes, then according to the detected value to determine whether to operate.
- If the product inside temperature detected by sensor is higher than 95 °F (35 °C), the fan will stop for 60 minutes, then according to the detected value to determine whether to operate.
- 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 running 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 pay attention to the protection of eyes and so on.

- ① Open the control box cover by twist hand screw. (Fig.13)
- ② Turn off main switch. (Fig.13)
- ③ Twist hand screw open maintenance board. (Fig.13)

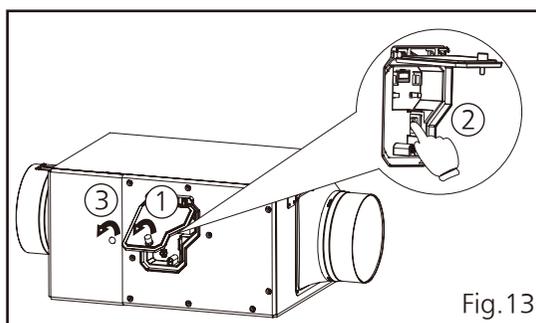


Fig.13

2. Pull out the pre-filter, clean it with water once in 3 months when filter indicator lights on with buzzer sound "Pi-Pi-Pi-...". (Fig.14)

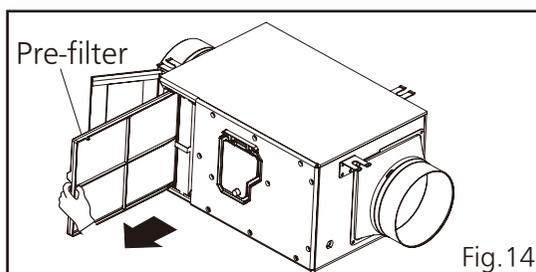


Fig.14

MAINTENANCE

3. Pull out the sub-efficient filter, clean it with vacuum cleaner once in 3 months when filter indicator lights on with buzzer sound "Pi-Pi-Pi-...". Replace it once in 6 months when filter indicator lights on with buzzer sound "Pi-Pi-Pi-...". (Fig. 15)

Please fill in beginning time on new filter before replacing.

Note

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

4. Install back the filters and close the maintenance board by twist hand screw. Please make sure that the arrow direction on sub-efficient filter is same as the "Air flow" mark on name plate. (Fig. 15)
5. Turn on main switch, press filter reset button with sound of "Pi-", then filter indicator and buzzer sound will be off. Close the control box cover by twist hand screw. (Fig. 16)

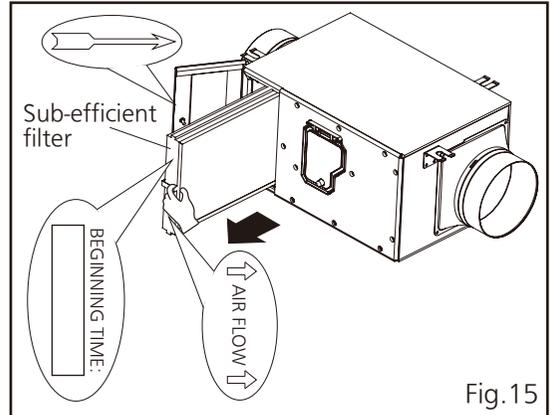
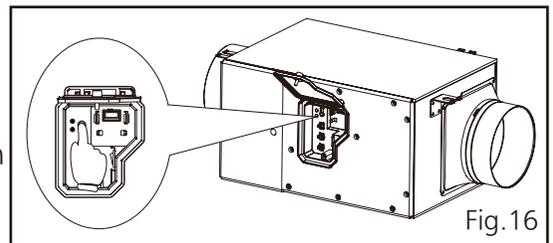
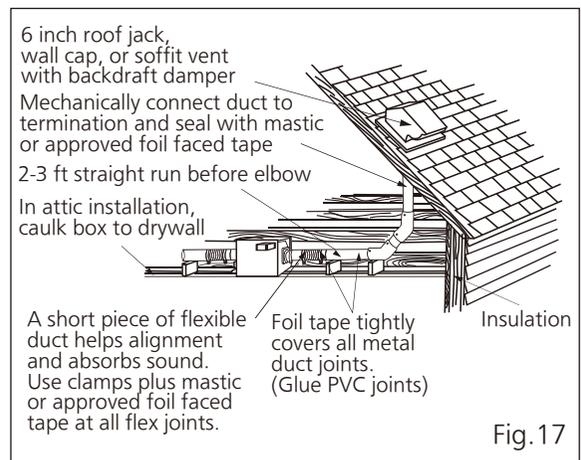


Fig. 15



PRACTICAL GUIDE TO INSTALLATION

Properly insulate the area around the fan to minimize building heat loss and gain. (Fig. 17) 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.



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*	8/8.2*	969/989*	13.4 (6.1)
					60/60*	9/9.3*	992/1012*	
					70/70*	10/10*	1022/1033*	
					80/80*	12/12.4*	1030/1067*	
					90/90*	13/13.5*	1056/1086*	
					100/100*	15/15.3*	1101/1121*	
					110/110*	16/16.7*	1122/1152*	
					130/130*	21.5/22.6*	1202/1235*	
150/150*	27.1/27.3*	1296/1314*						

Performance based on the MERV8 filter (FV-FL0815NL1), and data with "*" is a reference datas when using the MERV13 filter (FV-FL1315NL1).

Air volume performance based on HVI Procedures 916 and 920.

PRODUCT SERVICE

Warning Concerning Removal of Covers.

The unit should be serviced by qualified technicians only.

Your product is designed and manufactured to ensure a minimum of maintenance.

Should your unit require service or parts, call Panasonic Call Center at 1-866-292-7299 (USA) or 1-800-669-5165 (Canada).

Panasonic Corporation of North America

Two Riverfront Plaza, Newark, NJ 07102

www.panasonic.com

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Panasonic Canada Inc.

5770 Ambler Drive, Mississauga, Ontario L4W 2T3

www.panasonic.com

Printed in China

Issue date:01/2018

P0118-0 15NLF4051