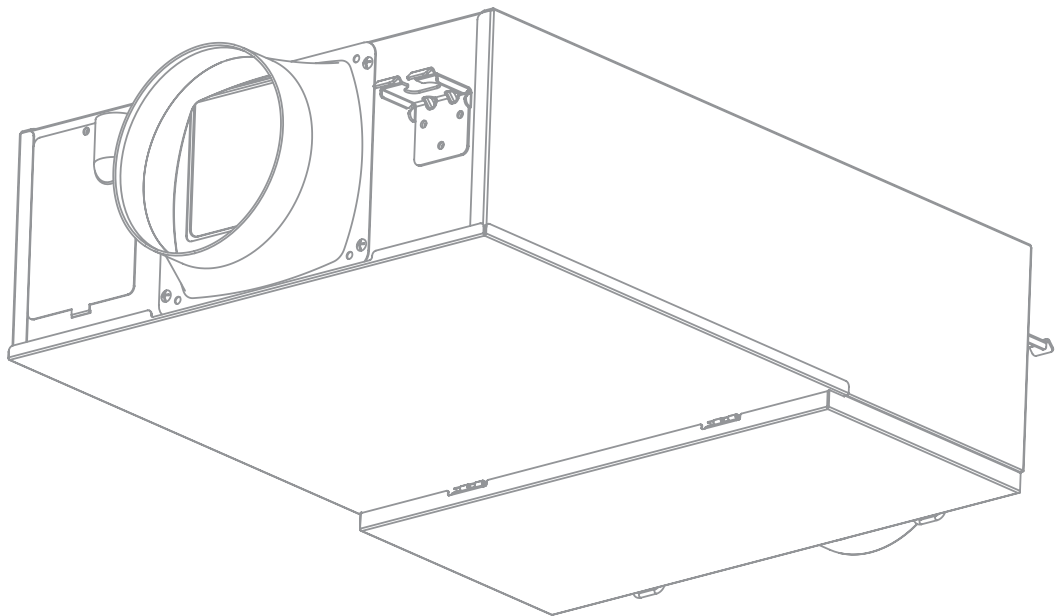




FRESH AIR SUPPLY VENTILATOR FS-150



USER MANUAL

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PREFACE

Thank you for purchasing the AireGard Fresh Air Supply Ventilator, FS-150! We hope that the product that you purchased from us will be delighting you always. Before you start using the product, we remind you to carefully read through this user manual to understand more about this product in order to avoid from any harm or risk of danger that could lead to unnecessary damage or even personal injury.

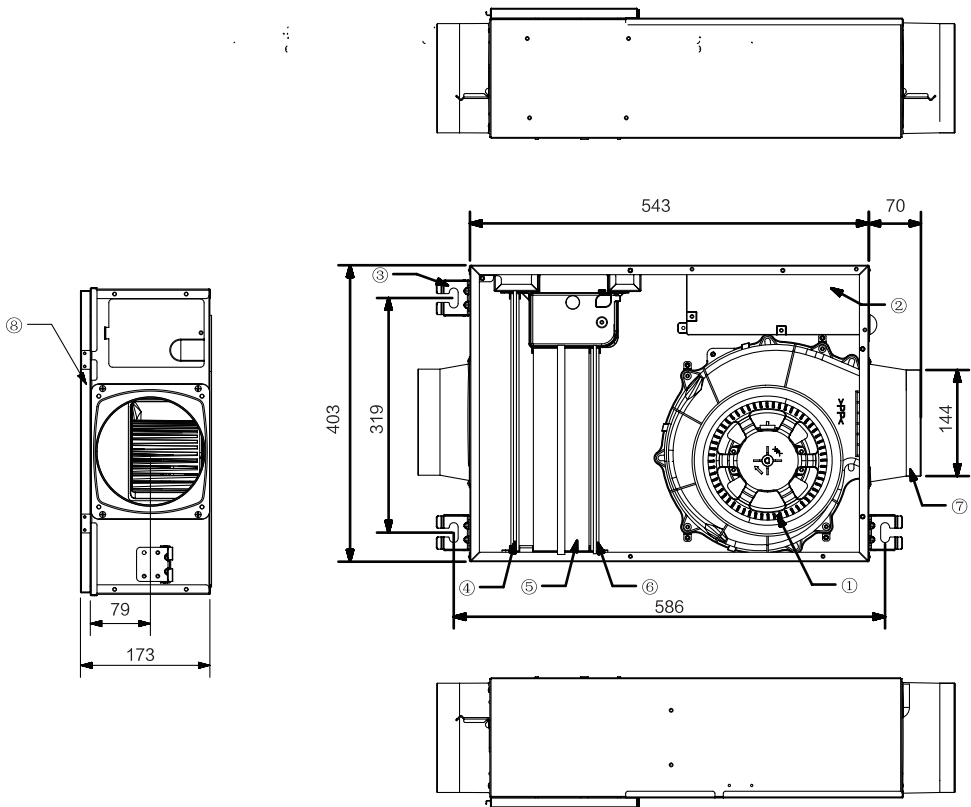
PRODUCT SPECIFICATION

MODEL	RATED VOLTAGE [V]	RATED FREQUENCY [Hz]	OPERATION MODES				WATER PROOF LEVEL	WEIGHT [kg]
			SPEED	POWER [W]	AIR FLOW [m³/h]	STATIC PRESSURE [Pa]		
FS-150	240	50	HIGH	68	250	185	IPX2	9.5
			MID	54	170	160		
			LOW	50	135	135		

NOTE :

1. The units of Air Flow, Voltage and other variances are measured under the condition of zero Static Pressure.
2. The measurement of Air Flow are obtained under the strictest monitoring within our research facility. The readings may varies within a difference range of ± 10%

DIMENSION & SPARE PARTS



NO.	①	②	③	④	⑤	⑥	⑦	⑧
NAME	WIND DUCT COMBO	CIRCUIT PANEL	HANGER	METAL FILTER	HIGH EFFICIENCY COMBO FILTER	ACTIVATED CARBON FILTER	WIND TRAP	INSPECTION DOOR
QUANTITY	1	1	3	1	1	1	1	1

PACKING LIST

NOTE :

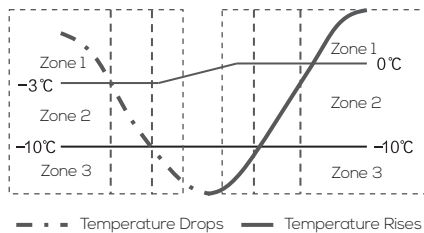
1. Kindly check through the entire contents of the packaging box and make sure that you have all the spare parts and accessories needed. Contact the dealer or manufacturer should you face problems with missing components.

NO.	ICON	NAME	QUANTITY
①		USER MANUAL	1
②		PHILLIP SCREWS (M4 x 16)	2
③		86 BOX CONTROL KIT	1
④		86 BOX WIRES	1

 **Use only the remote controls and matching spare parts provided by this package.**

IMPORTANT NOTICE

- Do not install the main unit and the air inlet in areas with close proximity to heavy machineries, chemical plants or research facilities, and avoid any possible exposure to materials with high acidic or alkaline contents in nature, or organic dissolvent, paints or poisonous gases with corrosive elements as it could lead to gas poisoning, damage to the main unit as well as possible fire hazards.
- Do not install the unit in the areas where it is exposed to extensive heat or has direct exposure to possible source of fire. Avoid installing the unit in high temperature environment exceeding 40℃ as it could lead to deformation of the filter and caused serious damage to the unit.
- Avoid using the unit in the areas where is there is a high density of oily fumes as the stains on the filter are not removable and may caused foul smells and possible fire hazards.
- Avoid using the unit in areas where there is a high density of insects in the are as the unit may suck in insects through the air inlet which is exposed to the outside of the premise into the indoor environment. Consider installing a rain proof insect repelling net on the air inlet to avoid the intrusion of insects into the unit which could cause interference to the unit's operation.
- Ensure that the unit comes complete with an inspection to facilitate any future maintenance needs.
- The unit is integrated with heat sensitive insulator, and helps to control the different operating modes of the unit (High / Mid / Low / Stop) with the help of the integrated temperature sensor to eliminate the likelihood of discomfort caused by the variances between indoor and outdoor temperature. Hence, it is absolutely normal that the operating modes of the unit may alter from time to time due to the change in temperature. Under the normal circumstances of operating room temperature (-10℃ ~40℃), the performance of the unit are as follow:



ZONE	TEMPERATURE	OPERATION MODES	
1	T > -3℃ (Temperature Drops) T > 0℃ (Temperature Rises)	HIGH MID LOW	USER PRESET
2	-10℃ ≤ T ≤ -3℃ (Temperature Drops) -10℃ ≤ T ≤ 0℃ (Temperature Rises)	LOW	DEFAULT
3	T < -10℃	STOP RUNNING FOR 20 MINUTES	

EXAMPLE #1:

User sets mode to “High” or “Mid”, but when room temperature drops from 1℃ to -3℃, the unit will automatically adjust the speed to “Low”, surpassing from Zone 1 status to Zone 2 status. If temperature continues to drop further to -10℃, the unit will enter a hiatus for 20 minutes and enter into Zone 3 status. As temperature gradually rises above -10℃, and after the unit has stopped operating for 20 minutes or more, the unit will automatically restarts from “Low” speed again, elevating from Zone 3 status back to Zone 2. And when the temperatures has risen to 0℃ and more, the the speed of the unit will automatically be adjusted from “Low” to “High” or “Mid”, further pushing the level from Zone 2 back to Zone 1.

EXAMPLE #2:

User sets mode to “High” or “Mid”, but when room temperature drops from 1℃ to -2℃ and back to 2℃, the unit will remain active in the “High” or “Mid” speed. If temperature continues to drop further to -3℃, the unit will remain operating in the preset speed mode and stay in the Zone 1 status.

NOTE: When room temperature has dropped to more than -10℃, the unit will stop operating for 20 minutes and will only resume operation when room temperature rises to equal or more than -10℃. If the room temperature has already risen to equal or more than -10℃ but the unit has still not resume operation, please turn off the power supply and contact the agent or dealer for service or inspection maintenance.

SAFETY PRECAUTIONS

Kindly read through the following carefully to avoid from damages in property or risk of personal injuries. The degree of harm and damages are divided between two categories identified by 2 distinctive signs:



WARNINGS

Possibility of high risk of death or serious injuries



PRECAUTIONS

Possibility of light injuries or physical or material damages

LEGEND



Items that are of Prohibition nature



Items that are of Strict Enforcement nature



WARNINGS

- ⊘ Do not use the unit in an environment exposed to open burning or heating equipment as it may lead to shortage of oxygen in the room. Use only appropriate gadgets for air exchange when using open burning equipment.
- ⊘ Do not alter or refigure or repair the unit on your own (may cause fire hazards, electric shock and personal injuries)
- ⊘ Do not operate the unit with wet hands (may lead to electric shock)
- ⊘ Do not insert your fingers or any external objects into the main unit or any of its air inlet or outlet as it may lead to damage of the fast operating turbine fans and personal injuries)
- ⊘ Do not expose the main unit, its motor or any of its spare parts to water as it may lead to short circuit or electric shock.
- ❗ Do not turn on the unit when there is a possible leak of inflammable gases in the room as it may lead to gas explosion
- ❗ Do not turn on the power supply of the unit during maintenance or inspection to avoid electric shock or personal injuries.
- ❗ Do not allow children or persons with mobile disability to operate the unit unless under the careful supervision of the person responsible for their care
- ❗ Do not attempt on repairing the unit or any of its spare parts if there are any damages. Ask for the help of the qualifies and trained professional for assistance.

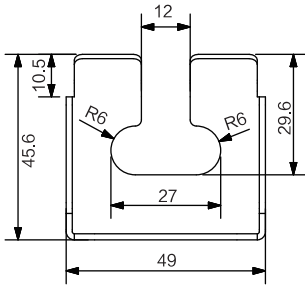


PRECAUTIONS

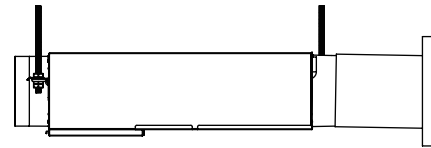
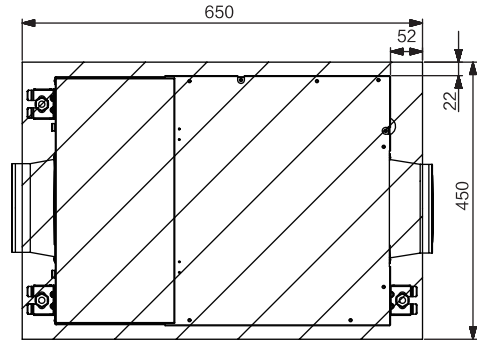
- ⊘ Do not place any foreign objects directly close to the air inlet or the air outlet of the unit.
- ⊘ Do not use open flames near the main unit as it may lead to possible high risk of fire hazard
- ⊘ Do not place any foreign objects on the unit especially water containment objects as the water leakage may sips into the main unit causing damage to the components and short circuit and electric shock.
- ⊘ Wear proper glove or protective gear when cleaning the filter net.
- ⊘ Do not attempt on the maintenance and servicing work on the unit other than the filter net. Engage professional help of qualified and trained technicians.
- ❗ Ensure that the main unit and its spare parts are installed properly and fastened to its position securely to avoid the unit from falling down and causing injury.
- ❗ Do not attempt the installation of the unit, its spare parts, ductings and others on your own. Engage the help of the professional technician especially when needed.
- ❗ Use the help of ladders when installation are being carried out in high level areas to avoid from falling and personal injuries.
- ❗ Turn off the unit when it is not being used. Gathering dusts may cause the unit to overheat and cause possible fire hazards.
- ❗ Turn off the unit when any abnormal noise or vibration or burning smell is detected. Call for professional help for inspection and servicing.

INSPECTION DOOR SETTINGS CHECK

1. Perform regular checking, cleaning and replacement on the filter net and double check on the inspection door of the unit.
2. The opening of the inspection door shall remain as 650 x 450 mm in dimension to facilitate easy maintenance works..



Detailed dimension of the hanger



Direction of installation - Inspection Door facing down

INSTALLATION GUIDES

A. MAIN UNIT & DUCTING INSTALLATION

1. Installing the 3 piece Hanging Screw Fastener

Ensure that the ceiling structure and the hanging tools for the unit is strong enough to sustain 5 times of the original given weight of the unit.

The position of the 3 Hanging Screw Fastener are as indicated in the diagram.

2. Installing the unit onto the Fastener

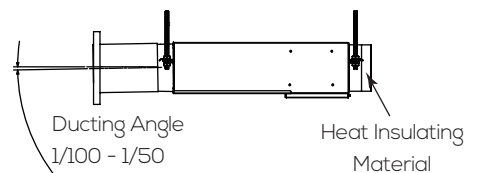
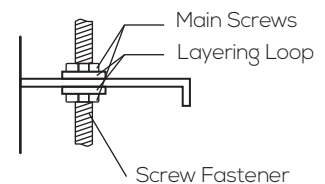
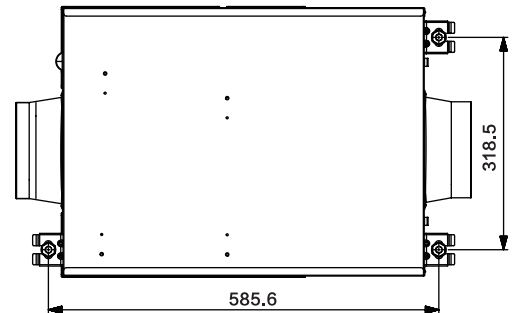
Securely install the Screw Fastener, layering loop and main screws (optional by user, use only M8-M10 types).

3. Connect the Ducting

Tightly secure the ducting to the connecting inlet or outlet and seal it with tapes.

The ducting leading towards the air outlet should be installed diagonally in a downward direction between 1/100 to 1/50 angle to prevent rain water from sipping into the outlet's opening.

Apply an additional layer of heat insulating material on surfaces of the ductings, connecting points as well as the hanging fastener to prevent it from condensation.



INSTALLATION GUIDES



PRECAUTIONS

Be careful and take necessary measures to prevent gases from slipping out into the room via any air vent or other open flames equipment.

Avoid the following situation during installation to prevent from abnormal loud noise or possible drop in wind speed.

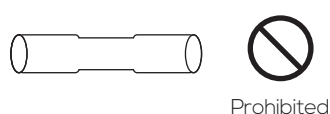
(1) Too much bending



(2) Multiple bending



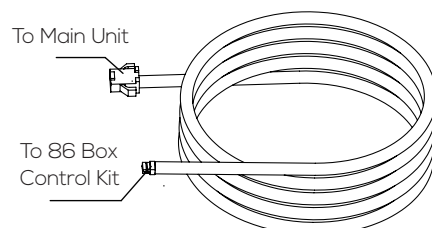
(3) Reducing the diameter of the ductings



4. Wiring the 86 Box Control Kit

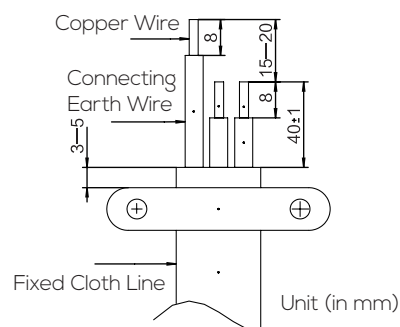
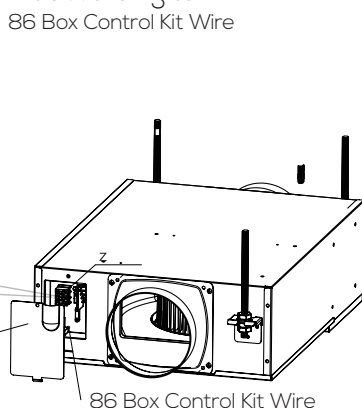
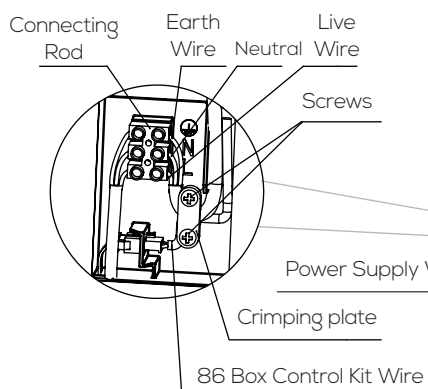
Connect the wires for the 86 Box Control Kit to the wire vent and switch box.

The two ends of the wire has different connecting power plug. Make sure the right end is connected to the right power plug for the main unit as well as for the 86 Box Control Kit.



5. Connecting the Cloth Line & 86 Box Control Kit

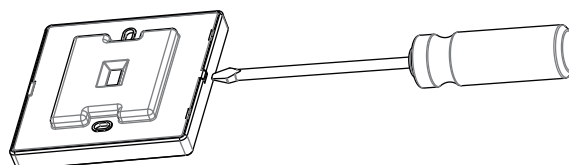
Connect the Cloth line and the 86 Box Control Kit according to the Line Schematic Diagram on page 8



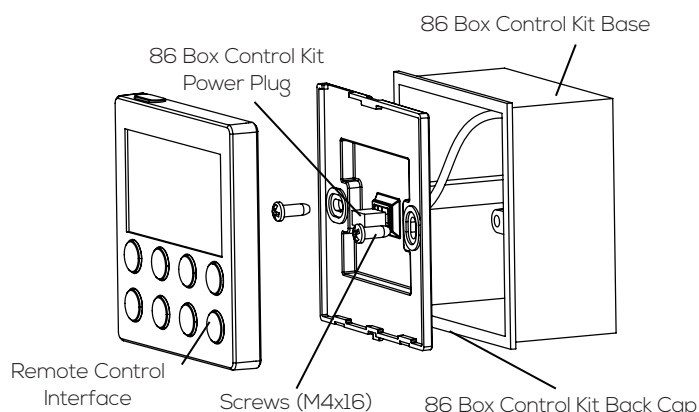
B. 86 BOX CONTROL KIT INSTALLATION

1. Remove the back cap

a. Use the Slotted Head Screw Driver to pry open the back cap of the 86 Box Control Kit from the side as indicated in the diagram.



b. Pull out the connecting wires from the base of the 86 Box Control Kit, and pulls it through the lower cap of the 86 Box Control Kit and secure the lower cap to the base using screws. Finally connect tightly the power plug to the circuit board on the upper cap of the 86 Box Control Kit.

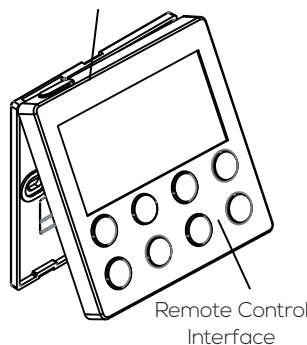


INSTALLATION GUIDES

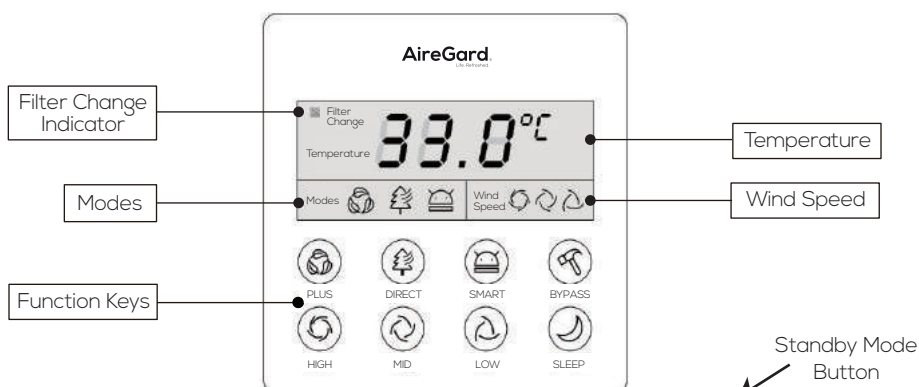
2. Attach the Remote Control

Insert the Remote Control onto the back cap of the 86 Box Control Kit, pressed lightly so that it is attached firmly. Connect the power supply and perform a test run on the different function of the Remote Control to ensure that it is in perfect working conditions.

86 Box Control Kit Base



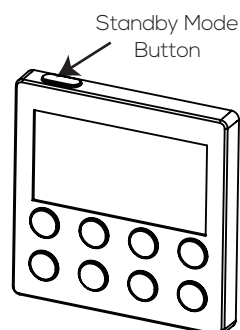
C. THE REMOTE CONTROL INTERFACE



USAGE METHODS

The Top Button is the Standby Mode Button. Press the button to set the Remote Control in standby mode.







Example : Press once to set Remote Control to "Plus" mode, press one more time to set Remote Control in standby mode and turn off "Plus" mode



1. Using the "PLUS" Mode

Applies for situation where indoor and outdoor air quality is poor.

The "PLUS" mode can help to improve the overall air quality to enhance the cleanliness of the indoor air.







- 1) Press the  button to turn on the "PLUS" mode, the wind default speed is set as "HIGH" . To adjust the speed, simply press the "HIGH" , "MID"  or "LOW"  button.
- 2) To turn off the "PLUS" mode, press the  button one more time to turn off.

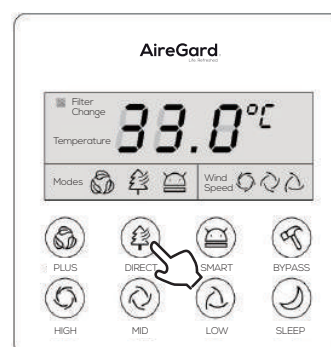


2. Using the "DIRECT" Mode

Applies for situation where indoor air quality is poor but outdoor air quality is good.

The "DIRECT" mode improve the overall air quality by reducing heavy usage on the air filter, thus prolonging the lifespan of the air filter.

- 1) Press the  button to turn on the "DIRECT" mode, the wind default speed is set as "HIGH" . To adjust the speed, simply press the "HIGH" , "MID"  or "LOW"  button.
- 2) To turn off the "DIRECT" mode, press the  button one more time to turn off.






INSTALLATION GUIDES

3. Using the "SMART" Mode

Applies for situation where indoor air quality is poor and smart sensor auto determine on the outdoor air quality.

The "SMART" mode can help to improve the overall air quality by monitoring outdoor air quality to control amount of inward air intelligently, while prolonging the Air Filter lifespan .




- 1) Press the  button to turn on the "PLUS" mode, the wind default speed is set as "MID"  . The speed is not adjustable during this mode function.
- 2) To turn off the "SMART" mode, press the  button one more time to turn off.

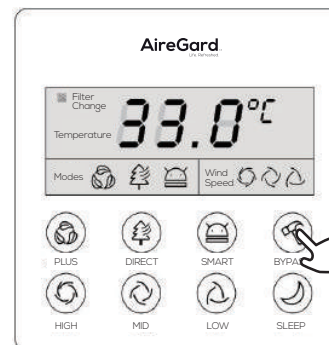


4. Using the "BYPASS" Mode

Applies for situation where there is a urgent need for a fast change of indoor air, without filtering the air quality.

The "BYPASS" mode improve the overall air quality by reducing heavy usage on the air filter, thus prolonging the lifespan of the air filter.




- 1) Press the  button to turn on the "BYPASS" mode, the wind default speed is set as "HIGH"  .
- 2) To turn off the "BYPASS" mode, press the  button one more time to turn off.



5. Setting the "SLEEP" Mode

Applies for situation where indoor air cleaning is necessary while operating in a super quiet condition.

The "SLEEP" mode improve the overall air quality to provide cleaner indoor air for all.

- 1) Press the  button to turn on the "DIRECT" mode, the wind default speed is set as "LOW"  .
- 2) To turn off the "SLEEP" mode, press the  button one more time to turn off.



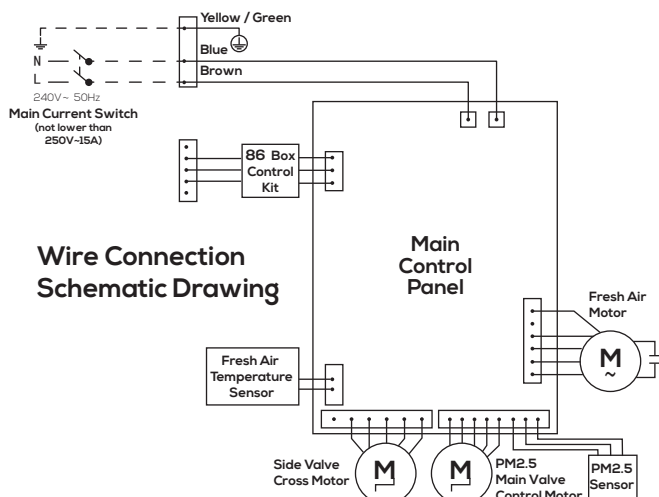
PRECAUTIONS

- Stop using the unit is any abnormal issues are detected. Contact the dealers or servicing agents for inspection or technical support.

The default air temperature indicated on the 86 Box Control Kit sets between -9.9°C and 50°C.
When the sensor is malfunctioning, the air temperature is indicated as "E1"

NOTE:

1. All technical installation and connection works must be carried out by professional trained technicians.
2. All wires laying and connection must fulfill the basic requirements of distance allowance for Grade III standards of maximum power current flow.
3. Use only power switch with permissible rated current of 15A or more.
4. All wires must be safely insulated with cloth fabricated cables, with cable diameter not lesser than 2.5mm².
5. Strip the wires only within necessary lengths and connect them accordingly. Over stripped wires may cause short circuit or fire hazards.
6. Ensure that the outer cap is closed to avoid moisture that will damage the unit. Avoid press too hard on the wires when closing the cap.



FILTER MAINTENANCE



WARNINGS

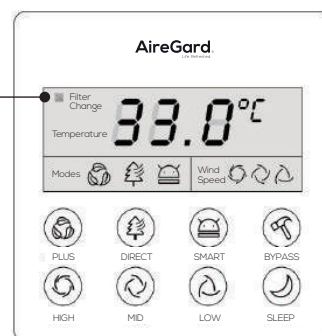
- ⓘ Do not use any cleaning oil with volatile or harsh substance and metal brush while cleaning the air filter as it will damage the surface of the air filter.
- ⚠ When performing cleaning work, please switch off all power supplies to avoid electric shock.
- ⚠ Always wear protective hand gears when performing cleaning to avoid personal injuries.
- ⚠ Always beware of objects below the feet and falling dirty particles when performing cleaning at a high position from ground.
- ⚠ Do not use heating equipment to dry up the unit after cleaning as it will deform the unit's shape and damage its function.

MAINTENANCE OF THE HIGH EFFICIENCY COMBO FILTER

The "Filter Change Indicator" will indicate the need for the change of air filter. Irregular service and maintenance of the air filter will reduce the functionality of the air filter, or lead to malfunction or even damage.

Set the frequency of the air filter maintenance according to the usage capacity within the given environment. We recommend a regular cleaning every 30 days, and a replacement of the air filter every 180 days. If the usage is heavy, the cleaning and replacement period can be adjusted accordingly.

Filter Change Indicator



About the Air Filter Lifespan

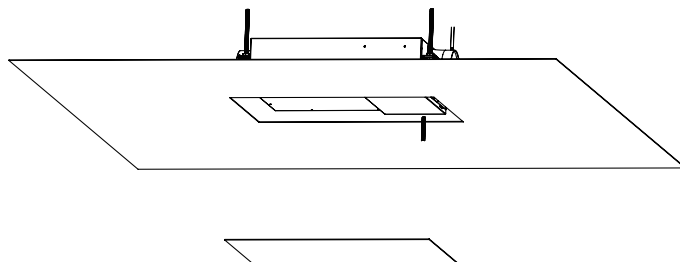
	CLEANING	REPLACEMENT
Metal Filter	Once every 30 days	Not needed
High Efficiency Combo Filter	Once every 30 days	As and when required by the Filter Change Indicator
Activated Carbon Filter	Once every 30 days	As and when required by the Filter Change Indicator

1. The need for change of the High Efficiency Combo Filter of every unit may differ depending on the kind of environment and the usage capacity. Please replace the filter when necessary.
2. Set the frequency of the air filter replacement according to the usage capacity and environment settings.
3. The air flow and air capture efficiency may deteriorate due to the kind of environment usage and over time. If the High Efficiency Combo Filter arrow indicator become blacken entirely, please change and replace the filter immediately.
4. In the event of environment with reasonably good conditions, where air particles with the diameter of less than $2.5\mu\text{m}$ and condensity of less than $50\mu\text{g}/\text{m}^3$, the accuracy of the sensory components may lead to a major statistical discrepancy of the test reading, which may cause the above efficiency performance to decrease. (The manufacturer uses TSI8530 as the standard measuring equipment)

Cleaning & Replacing the Air Filter

Please follow the below steps accordingly when cleaning the air filter.

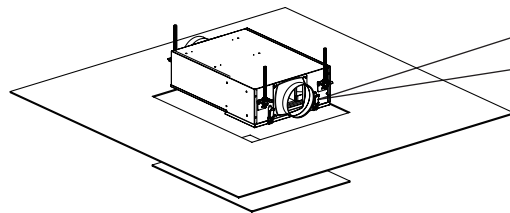
1. Shut down all power supply
2. Loosen the Inspection Door.



FILTER MAINTENANCE

3. Open the Inspection Door.

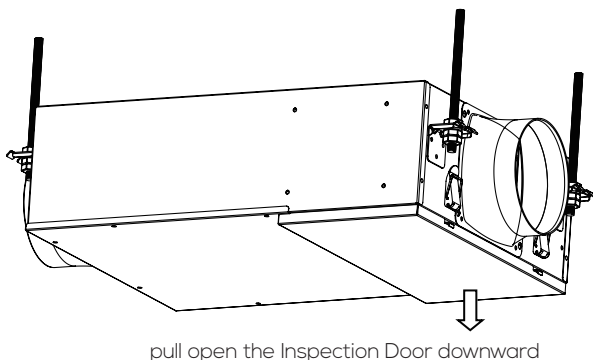
- a) Unbuckle the clipper



PRECAUTIONS

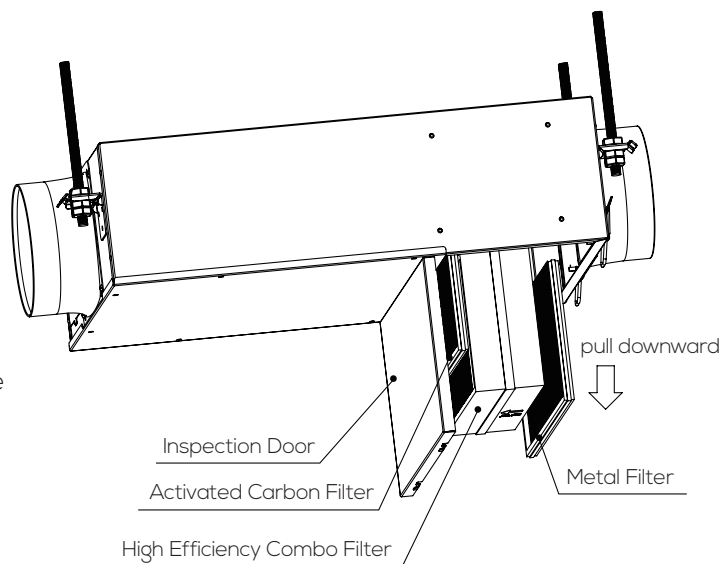
- Beware of the falling Inspection Door when loosening and opening it to avoid personal injuries.

- b) Pull open the Inspection Door downward



4. Remove the Air Filter

- a) Use your hands to gently remove the Air Filter (the Metal Filter, High Efficiency Combo Filter and Activated Carbon Filter in the orderly sequence) by pulling the attached strap while preventing it from falling off directly from its compartments.
- b) Beware of falling dirts, dusts or insects from the surface of the High Efficiency Combo Filter.



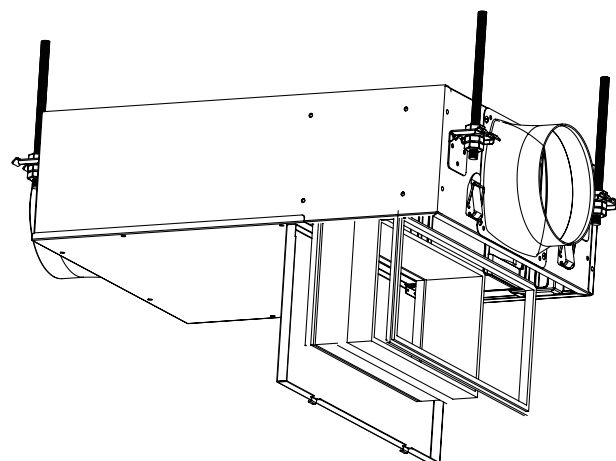
5. Use Vacuum Cleaner to Clean the Dust & Dirt

- a) Do not wash the filter with water or other substance as it may damage the filter and affect its functionality.
- b) Insert the High Efficiency Combo Filter back into the compartment after cleaning. Take note of the correct direction of the filter before insertion.

6. Switch on the Remote Control for Test Run

When the "Filter Change Indicator" is lit, please change the High Efficiency Combo Filter.

- a) The sequence order of changing the filter is the same as Step 1-3
- b) Remove the used filter and insert the new High Efficiency Combo Filter into the given filter compartments.
- c) Switch on the remote control for test run



TROUBLESHOOTING

Please check the following accordingly for the concerned areas. For any abnormalities detected, please turn off all the power supply and ensure the circuit breaker remain OFF, and then contact the dealer or servicing agent for inspection or service.

CONDITION	CAUSES	ACTIONS
1. Unit do not run even though power is on 2. Wind does not blow	• the circuit breaker has tripped	• please connect the circuit breaker
	• there could be a blackout	• restart the power supply and test run again
	• particles has blocked the filter	• please clean the filter
3. Loud noise on motor	• the motor screw has loosen	• tighten the screws
	• the turbine wheel is crooked	• change the turbine wheel
	• the motor is malfunctioning	• change the motor
	• the circuit is malfunctioning	• repair the circuit (by technician)

CUSTOMER SERVICE

1 Maintenance Service

- a) Warranty Period : 5 years
- b) Within the first 18 months from the purchasing date, the manufacturer is responsible for the service or replacement of any of the following faulty parts:
 - (i) Problems arising during the proper installation and usage guidelines as required in the user manual
 - (ii) Problems arising from the repair, maintenance or installation by the appointed technicians.
- c) Areas not covered by the warranty:
 - (i) Failure arising due to improper installation, usage or maintenance not recommended in the user manual
 - (ii) Failure arising due to the improper wiring connection not according to the wiring schematic drawing.
 - (iii) Failure arising due to the improper service or repair by non-appointed personnel or technicians.
 - (iv) Force Majeure factors or factors of natural disaster or uncontrollable factors.

2. After Sale Service

For any enquiries or requires services, please contact the dealers or servicing agent or contact 1300-88-4273 for assistance and support