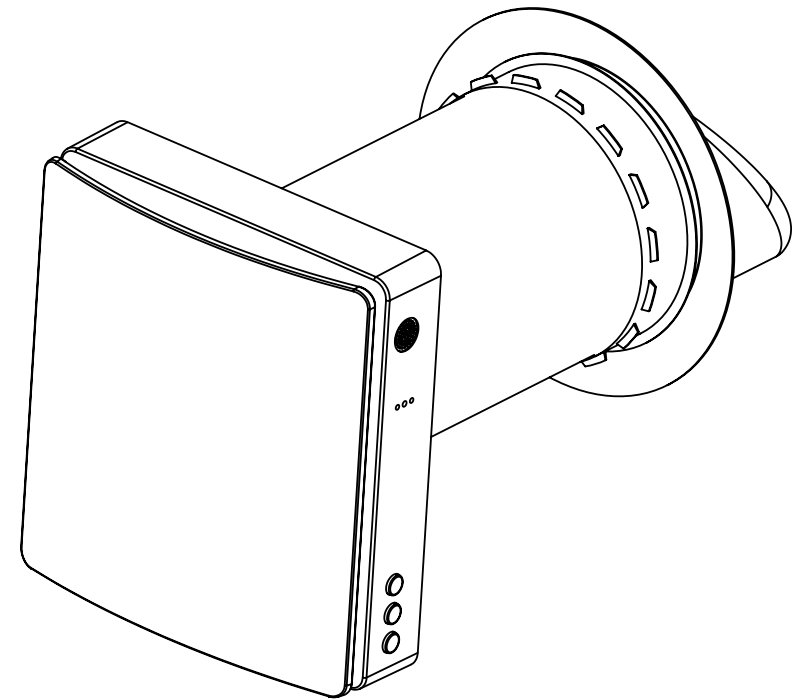


AV-TTW5-W

Eco Pair Single Room
Energy Recovery Ventilator
Instruction Manual



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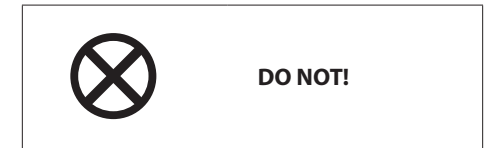
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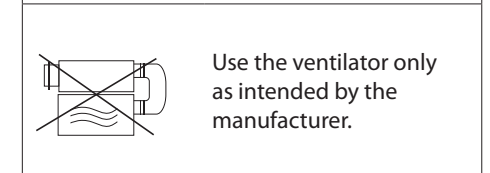
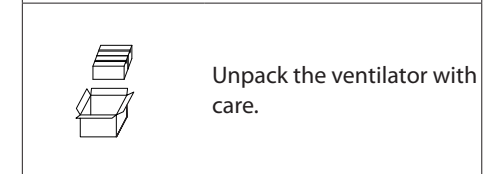
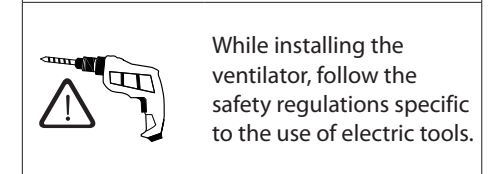
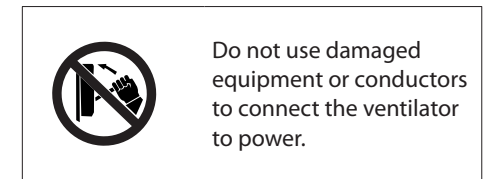
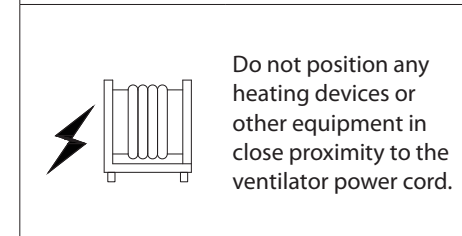
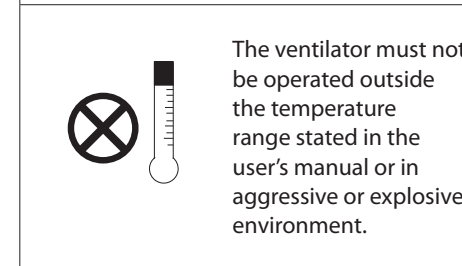
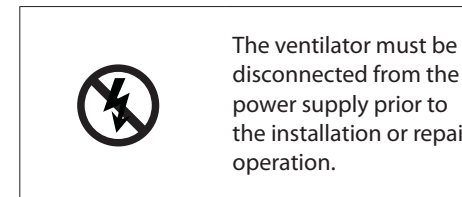
► SAFETY REQUIREMENTS

- Read the user's manual carefully before the operation and installation of the heat recovery ventilator AV-TTW5-W.
- Installation and operation of the ventilator shall be performed in accordance with the present user's manual as well as the provisions of all the applicable local and national construction, electrical and technical codes and standards.
- The warnings contained in the present user's manual must be considered seriously since they contain vital personal safety information.
- Failure to follow the safety regulations may result in an injury or ventilator damage.
- Read the manual carefully and keep it as long as you use the ventilator.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning the use of the appliance in a safe way and understand the hazards involved.
- Children shall not play with the appliance.
- Cleaning and user maintenance shall not be made by children without supervision.
- If the power supply cord is damaged, it must be replaced by the manufacturer or its service agent or similarly qualified persons in order to avoid a hazard.
- The ventilator is suggested to be installed more than 2.1 m above the floor.
- The precautions must be taken to avoid the back-flow of gases into the room from the open flue of gas or other fuel-burning appliances.
- Exhaust fans may adversely affect the safe operation of appliances burning gas or other fuels (including those in other rooms) due to backflow of combustion gases. These gases can potentially result in carbon monoxide poisoning. After installation of an exhaust fan such as a partition fan or a duct fan the operation of open flue gas appliances should be tested by a competent person to ensure that backflow of combustion gases does not occur.
- Non-rechargeable batteries are not to be recharged.
- Batteries are to be inserted with the correct polarity.
- Exhausted batteries are to be removed from the appliance and safely disposed of.
- If the appliance is to be stored unused for a long period, the batteries should be removed.
- The power supply terminals are not to be short-circuited.
- Take good care of the remote control to prevent children from swallowing batteries and causing accidents.


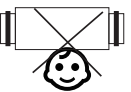
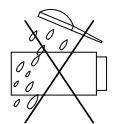
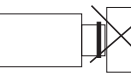
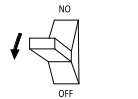
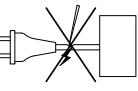
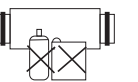
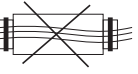
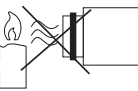
Symbol Used In The Manual



Ventilator Installation Safety Precautions



Ventilator Installation Safety Precautions

	Do not touch the controller or the remote control with wet hands. Do not carry out the ventilator maintenance with wet hands.
	Do not let children operate the ventilator.
	Do not wash the ventilator with water. Protect the ventilator electric parts from water ingress.
	Do not block the air duct when the ventilator is on.
	Disconnect the ventilator from the power supply before maintenance.
	Do not damage the power cable while operating the ventilator. Do not put any objects on the power cable.
	Keep explosive and inflammable products away from the ventilator.
	Do not open the operating ventilator.
	Do not let air flow from the ventilator be directed to the open flame devices or candles.

► INTRODUCTION

This user's manual includes technical description operation, installation and mounting guidelines, technical data for the heat recovery ventilator AV-TTW5-W.

► USE

- The ventilator is designed to exchange air in apartments, villas, hotels, cafes, and other domestic and public buildings. The ventilator is equipped with a ceramic energy regenerator and a fan that supply of fresh air and extract air with energy recovery.
- The ventilator is designed for through-the- wall mounting. The telescopic ventilator design enables its installation in the walls from 280 mm to 470mm thickness.
- The ventilator is rated for continuous operation always connected to power mains.
- Transported air must not contain any flammable or explosive mixtures, evaporation of chemicals, coarse dust, soot and oil particles, sticky substances, fibrous materials, pathogens, or any other harmful substances.



INSTALLATION AND CONNECTION OPERATIONS MUST BE PERFORMED ONLY BY PROPERLY QUALIFIED PERSONNEL AFTER THE APPROPRIATE SAFETY BRIEFING.

THE VENTILATOR INSTALLATION SITES MUST PREVENT ACCESS BY UNATTENDED CHILDREN.

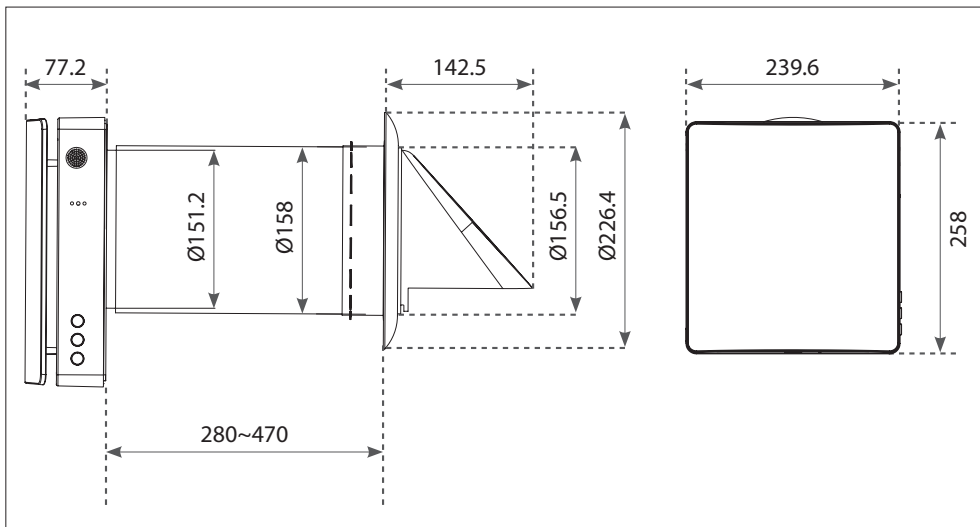
► PACKING LIST

Ventilator	1 pc
Accessories bag	1 pc
Remote controller	1 pc
User's manual	1 pc
Packing box	1 pc

► MAIN TECHNICAL PARAMETERS

- The ventilator is designed for indoor application with the ambient temperature ranging from -20°C (-4°F) to +50°C (+122°F) and relative humidity below 80%.
- The ventilator is classified as a class II electric appliance.
- Ingress Protection (IP) rating is IPX4.
- The ventilator design is regularly improved, so some models may be slightly different from those ones described in this manual.

Ventilator Overall Dimensions (mm)

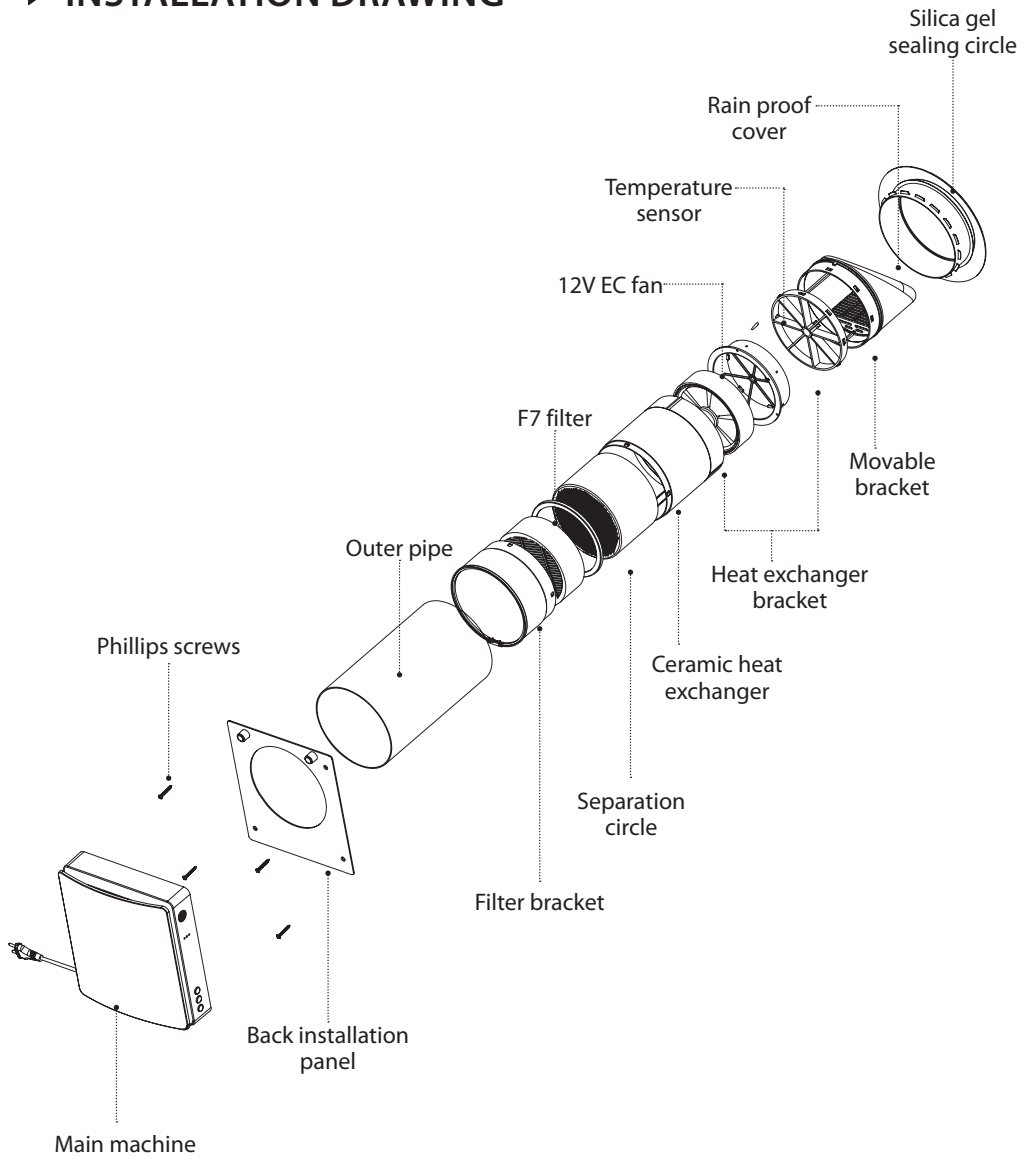


Description	Unit	Value
Voltage	V	100-240
Frequency	Hz	50/60
Input Power	W	6/7/7.8
Current	A	0.04/0.05/0.06
RPM	-	1000/1550/1800
RPM (max)	-	2200
Airflow (L/M/H)	m ³ /h	20/40/50
Sound Pressure Level	dB(A)	32.7
Regeneration Efficiency	%	up to 97
Ingress Protection Rating	-	IPX4
Air Duct Diameter	mm	158
SEC	-	Class A
Mounting Type	-	Wall Mounting
Net Weight	kg	4.2

► DESIGN AND OPERATION

- The ventilator consists of a telescopic air duct with adjustable length regulated by the position of the inner air duct inside the outer air duct, the ventilation unit, and the ventilation hood.
- Two filters and the ceramic energy regenerator are located inside the inner duct. The filters are designed to purify supply air and prevent foreign objects from ingress into the regenerator and the fan.
- The ceramic energy regenerator extracts energy from exhaust air to warm up or cool down supply air.
- The regenerator is equipped with a pull cord inside to facilitate its withdrawal from the ventilator. The regenerator is installed on an insulation material which is used as a sealant as well.
- The ventilator is available to be installed from the inner side of the wall.

► **INSTALLATION DRAWING**



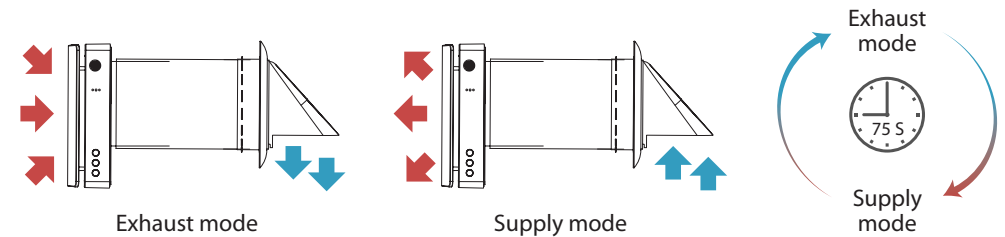
► **OPERATION MODES**

Ventilation Mode. The ventilator runs in the air extract or air supply mode with a set speed. In case of synchronous operation of two connected ventilators one unit operates in the supply mode and the other one in the extract mode.

Regeneration Mode. The ventilator runs in two cycles, 75 seconds each, to provide heat and moisture regeneration.

Interval 1 The warm polluted air is extracted from the room and goes through the ceramic regenerator, which gradually absorbs heat and moisture. After 75 seconds the ventilator switch to supply air mode.

Interval 2 The fresh and cold outdoor air goes through the heat regenerator and absorbs the accumulated moisture and heat after 75 seconds, when the energy regenerator gets cold, the ventilator switches to the air extract mode.



CAUTION!

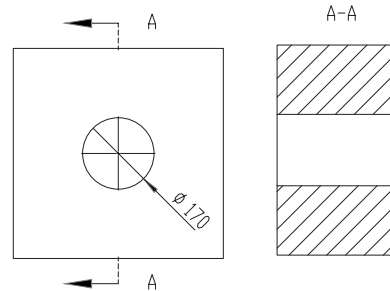
INSTALLATION AND SET-UP

Read The User's Manual Before Installation The Ventilator

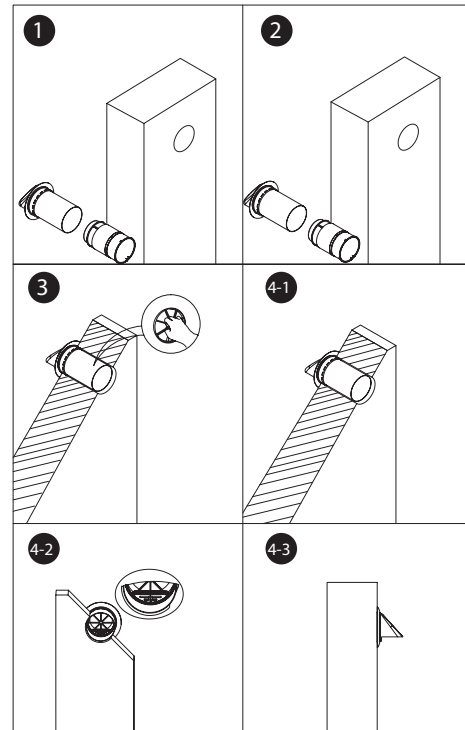
To prevent the room dust deposition and accumulation, the ventilator must not be installed in sites where the air duct may be clogged by the blinds, curtains, drapes, etc. Meanwhile, curtains might obstruct normal airflow in the room, thus rendering ventilator operation not efficiently.

► VENTILATOR INSTALLATION

1. Drill a 170 mm round hole in the wall. The hole size is shown below.



Assemble the inner duct and outer duct together to adapt to the thickness of the wall, then take out the inner duct and put the outer duct into the wall hole. After that, grasp the bracket to spin the outer duct forward and backward, left and right to make the air inlet/outlet correctly placed downward by the sign of the external ventilation hood. (The outer duct shall not be longer than the wall thickness, and the extra part can be removed. Installation of outer ducts with/without accessories, please refer to step 5)

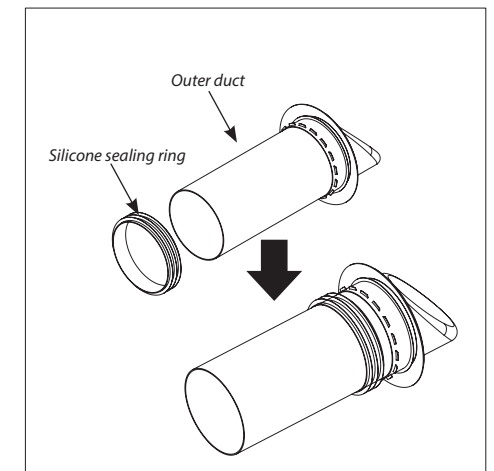
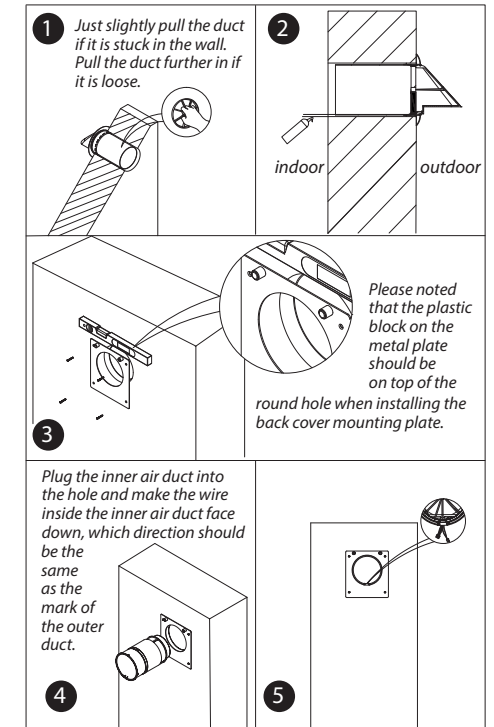


2. Pull the mobile bracket inside the outer duct back into place so that the silicone ring on the outside of the outer duct is tight against the outer wall.

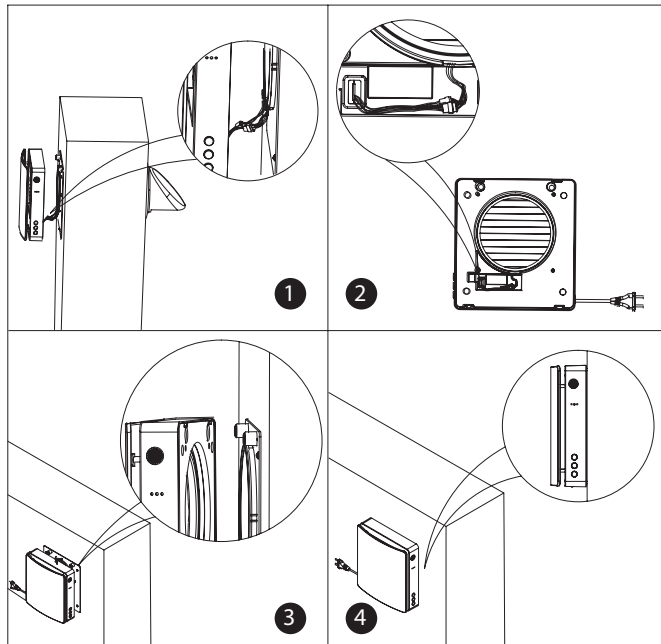
Fill the space between the wall and the outer duct with the PU glue included in the kit before attaching the back cover mounting plate, and then wait for the glue to dry.

Then install the back cover mounting plate, align the round hole of the back cover mounting plate with the round hole on the wall, and measure the level of the mounting plate with a level ruler to ensure that the mounting plate installation is horizontal, then mark the hole, punch in the expansion rubber grain, then align the mounting plate with the hole and fix it with a screw.

3. If there are no occasions in the installation environment where rainwater can be directly spilled to the ERV, you can insert the accessory silicone seal from the accessory bag into the air outer duct, and then install the duct into the wall. It can be sealed with the wall and the duct plays the role of waterproof. In this case, it will be possible to proceed without carrying out steps 3-2 and there is no need to use PU glue to seal the space between the wall and the duct. (The silicone seal installation position is flexible, it simply needs to be inserted into the air outside the duct at a specific depth.)



4. Install the main unit on the indoor surface wall, and connect the adapter wire from the back of the main unit to the wiring of the fan and temperature sensor exposed by the inner duct in the wall. Tidy the wiring, align the main unit with the plastic block protruding on the back cover board and install it in. (There are corresponding concave holes on the back of the main unit.) Just install it, no other operations are required. The back of the main unit is equipped with a strong magnet, which will automatically attract the mounting plate on the wall (After installation, please check that if there is a large gap between the main unit and the mounting plate. If yes, it means that the wires in the main unit are not sorted out. Therefore, please remove the main unit and reinstall it)



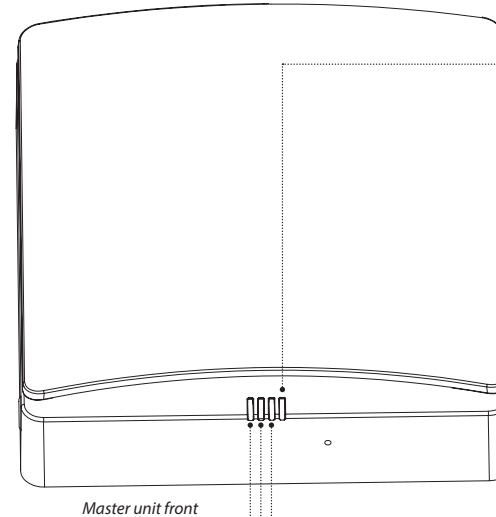
CONNECTION TO POWER

DISCONNECT THE VENTILATION FROM POWER MAINS TO ANY ELECTRIC INSTALLATION OPERATIONS.

THE VENTILATOR IS RATED FOR CONNECTION TO SINGLE-PHASE AC100-240 V/50-60 HZ POWER MAINS. CONNECT THE VENTILATOR TO THE SOCKET DIRECTLY.

FUNCTION DESCRIPTION

Description Of The Master Unit



Status Light (RGB-LED)

ON status

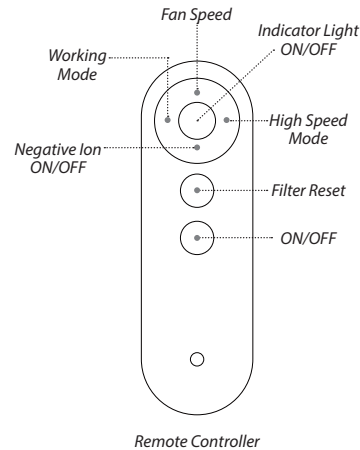
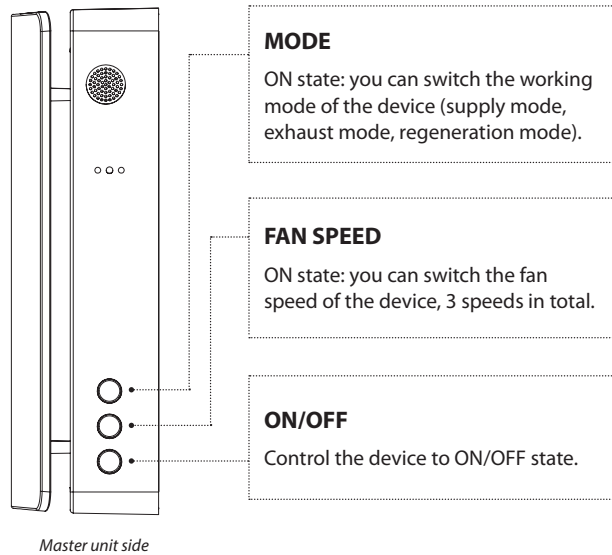
1. Blue light is on: Master-slave linkage mode is activated, and the linkage communication function is realized between master and slave units.
2. Green light is on: IoT function is enabled, WIFI is networked successfully, and it's available to control the device on the phone.
3. Red light is on: Filter cleaning alarm to remind that it is time to replace the filter in the inner duct.
4. Purple light is on: Indicates the master role in master-slave online mode, and the master lot networking function is enabled, and the device can be controlled by the phone.
5. Green light slow flashing: Automatic ventilation function is on and running.
6. Blue light slow flashing: Free-cooling function is on and running.
7. Red light flashes three times: Indicates that the filter cleaning is complete and the cleaning time is reset.

Function Light (RGB-LED)

1. Function light indicates the fan speed, 3 speeds in total.
2. The green shows as air supply.
3. The red shows as air exhaust.
4. The blue shows as the regeneration mode, which is switched after 75 seconds of cyclic operation between air supply and air exhaust.

OFF status (coordinate with the buttons)

1. Blue light slow flashing: Indicates the device role set as the master in master-slave linkage.
2. Green light slow flashing: Indicates the role of the device set as a slave in master-slave linkage.
3. Red light slow flashing: Indicates that the device is in WIFI connection mode.



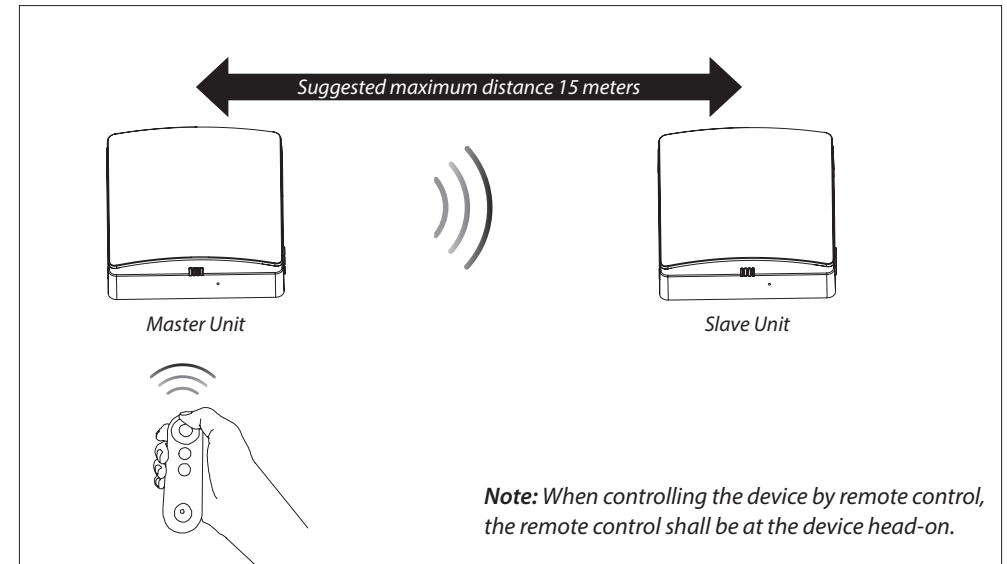
Remote Controller

- Fan Speed:** switch the fan speed of the device, 3 speeds in total.
- Working Mode:** switch the working mode of the device (supply mode, exhaust mode, regeneration mode).
- Negative Ion ON/OFF:** Negative ion generator power socket work switch, (when the negative ion function is turned on, the device supplies air when the power supply, negative ion generator needs to be purchased separately and loaded)
- Indicator Light:** Control indicator light on and off.
- High Speed Mode:** Control the fan into the high speed mode, and the fan runs at maximum power if there is no other setting, the device runs for 30 minutes to turn off this mode automatically.
- Filter Reset:** After replacing the filter of the inner air duct, long press the button for 5 seconds, the device red light flashes three times, and the filter cleaning time reset. (Reset time default 30 days)
- ON/OFF:** Control the device to ON/OFF state.

This remote control uses infrared signals.

- Before using the remote control, put the battery into the remote control and screw the battery cover tightly
- After loading the battery, screw the battery cover clockwise as shown until the cover triangle arrow indicates the locking pattern, which means it is locked (please do not tighten the cover with your bare hands to avoid damage to your hands)
- To remove the battery, turn the battery cover counterclockwise as shown in the picture until the triangle arrow of the cover indicates the unlocking pattern, that is, loose, then the battery can be removed
- Please keep the remote control properly to prevent children from swallowing the batteries and causing accidents.

► MASTER-SLAVE LINKAGE SYNCHRONIZATION FUNCTION

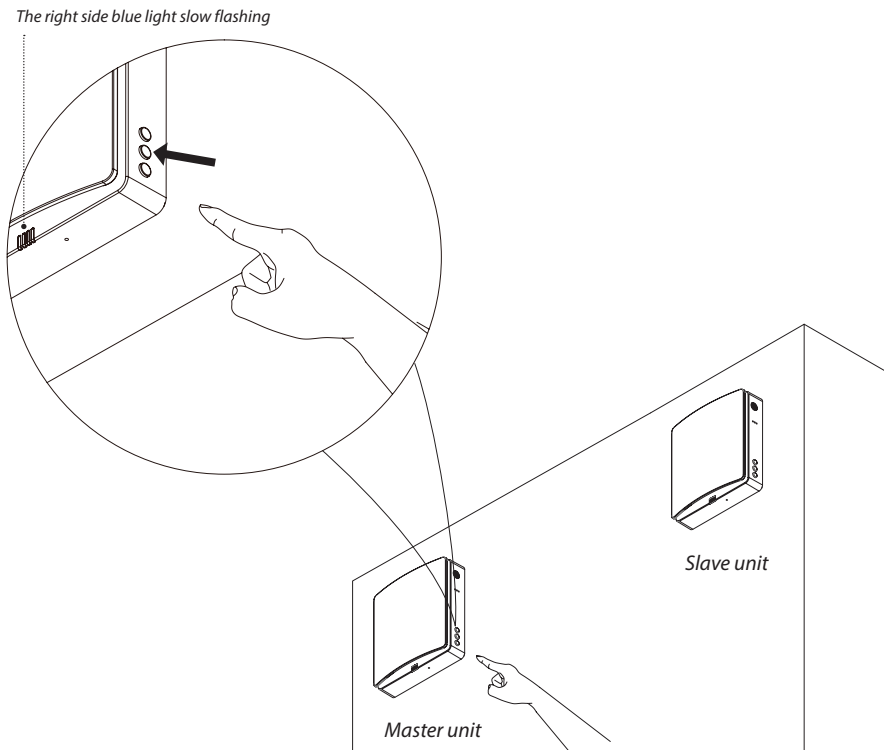


- Without setting a master/slave role, one remote control can control one or more devices.
- After setting the master/slave role, the current use of the remote control can only control the master, and the master will send the synchronization signal to the slave (the slave does not receive the remote control signal), so that the slave mode is synchronized with the master. (The master can only control one slave alone).
- In regeneration mode, the operation direction of the slave fan is opposite to that of the master, and the direction of the slave fan in other modes is the same as that of the master.
 - The maximum linear unobstructed communication signal distance between master and slave is 15m.
 - The signal from the master and slave can pass through a 180mm thick brick wall.

► MASTER-SLAVE UNIT SETTINGS

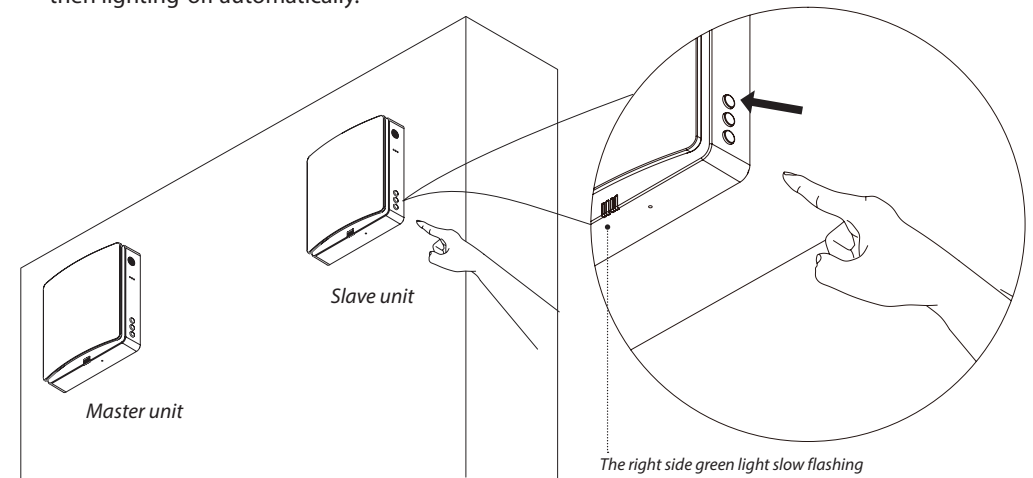
Master Unit Settings

Connect the device with power. In the OFF state, as shown in the figure, long press the fan speed button of the unit for 5 seconds, and the status indicator blue light flashes slowly. At this time, the device enters the master-slave linkage mode, it is set to the master role.



Slave Unit Settings

1. Connect the device to power. In the OFF state, as shown in the figure, long press the mode button of the device for 5 seconds, and the status indicator green light flashes slowly. At this time, the device enters the master-slave linkage mode, the unit is set to the slave role.
2. During the master and slave set linkage mode, it should be carried out at the same time for a limited time (within 1 minute). The devices should be as close as possible, the device will be automatically connected.
3. The status light of the paired devices is converted to blue light is ON to indicate that master-slave linkage is successful.
4. If the master-slave linkage is failed, the status lights on the devices will flash for one minute and then lighting-off automatically.



► MASTER-SLAVE RESET AND CANCELLATION

Connect the device with power. In the OFF state, long press the fan speed button of the linked device for 5 seconds, and the device status indicator blue light flashes slowly. At this time, the linked device enters the master-slave linkage mode, the device definition is the master role. It should be carried out at the same time for a limited time (within 1 minute), and wait for the status indicator lighting-off automatically, then the device is not connected to the slave to break off the master-slave linkage automatically as well. At this stage, the device is reset and restored to the factory state, without any role definition.

► IOT NETWORKING FUNCTIONS



1. The device name of the successfully connected units. The app can connect multiple devices, each device will have a different name, and you can modify the device name according to your preference.
2. Device master-slave linkage of the master role. After master-slave linkage is successful, the slave can not be operated by the network. If the slave is networked before the master-slave linkage is set, the slave is networked offline after the master-slave role is set. And if the master-slave linkage is not set, the icon will not be displayed.
3. Filter cleaning alarm. It reminds the replacement of the filter of the inner duct, the icon is not displayed after resetting.
4. Outdoor real-time temperature detection. It can quickly and accurately detect the outdoor temperature, when the operation mode is exhaust mode, the outdoor temperature is not detected and not displayed.
5. When the free cooling function is turned on, the comfort temperature can be set and customized. When the device follows the temperature within the temperature (during the operation of the set temperature loop mode, if the outdoor temperature is within the comfort level $\pm 1^{\circ}\text{C}$), the equipment mode will turn to the fresh air mode to introduce a large amount of fresh air. The setting range is 10°C to 29°C .
6. CO2 concentration exceeds the standard detection setting. It can be customized to set the CO2 concentration value. When the automatic mode is turned on, if the indoor CO2 concentration exceeds the set CO2 concentration during the device is running in regeneration mode, the device will enter the supply mode to bring in a large amount of fresh air to dilute the CO2 concentration until the CO2 concentration is lowered to the set concentration. Then the device will resume the operation mode before the setting. It can be set from 400 to 2000ppm.
7. Indoor real-time detection of CO2 concentration. It can quickly and accurately detect the CO2 concentration in the room.
8. It can be rapid timing operated within 12 hours and Auto Shutdown.
9. Set the remaining time after timing.
10. ON/OFF
11. Working mode (fresh air mode, exhaust mode, regeneration mode)
12. Fan speed, 3 speeds in total.
13. High-speed mode. The device fan supply/exhaust with the maximum power.
14. Auto mode ON/OFF
15. Free cooling ON/OFF
16. Negative ion socket
17. ON/OFF indicator light brightness control

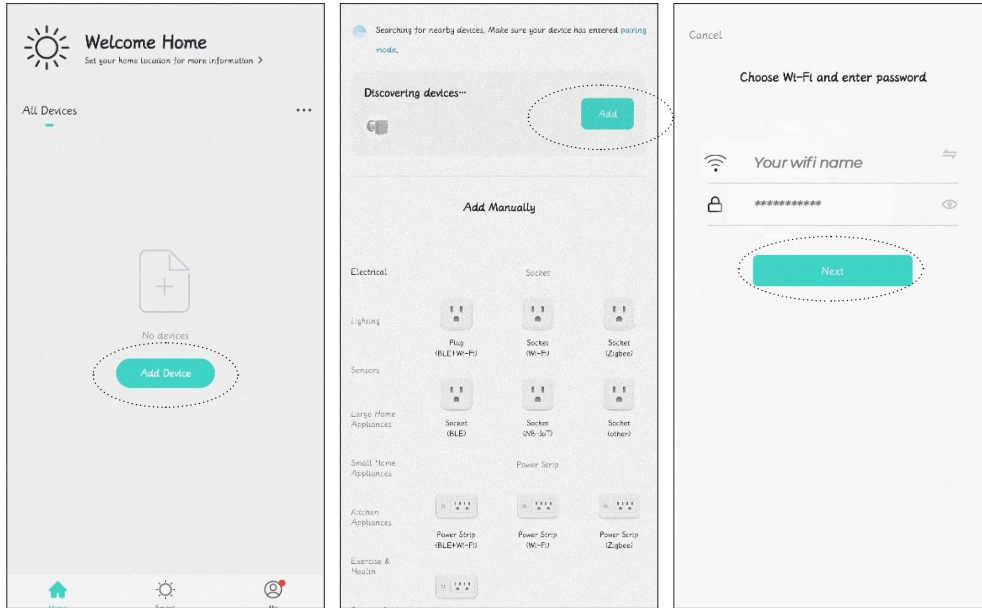
► APP DOWNLOAD INSTRUCTIONS

Scan the QR code on the right to download the app, or search for "Smart Vent" in the Apple Store and Google Play Store to install the app, and then use the device's WIFI connection to control the device with the mobile app.

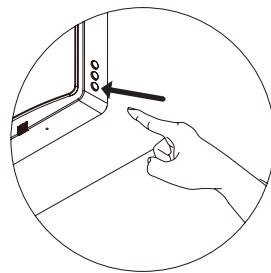
If you want to use the smart speaker voice control function, please scan this QR code to download the app. or search "smart life" in the Apple store and Google play store to install the app, download, and install using the device's WIFI connection. It's available for the mobile app to control the device, and support Google and Alexa Smart speaker control function.



► IOT NETWORKING OPERATION STEPS

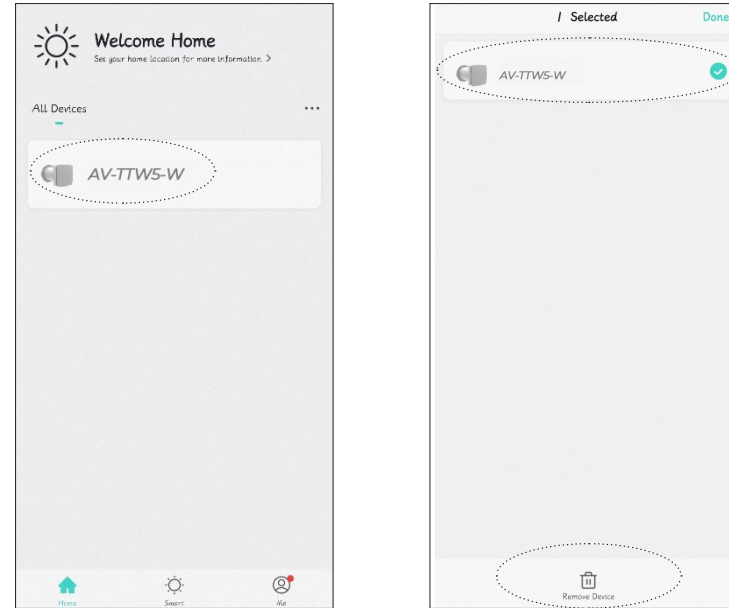


1. Before enabling Lot networking operation, please connect your cell phone to your home router WIFI, turn on the Bluetooth function of your cell phone, and ensure that the device and cell phone are within the WIFI signal coverage (make sure the router WIFI is enabled for 2.4G network).
2. When the device is powered on, in the OFF state, long press the ON/OFF button of any device for 5 seconds, the device status indicator will flash red slowly, then the device will enter the WIFI distribution state, and the cell phone will be available for operation and connection.



3. Open the downloaded smart vent app, enter the operation page, click the add device box, and search for devices.
4. At this time the app receives the signal from the device, then clicks to add the device for network connection.

► WIFI RESET AND CANCELLATION



5. Click Add Device to find the wifi signal of your home router, and make sure the wifi name on the app is the same as the name of the wifi connected to your phone, then login with the wifi password.
6. After successful WIFI connection, the device will be connected to the network, and after the connection is completed, you can enter the operation page to operate.

Remove the device from the app as follows:

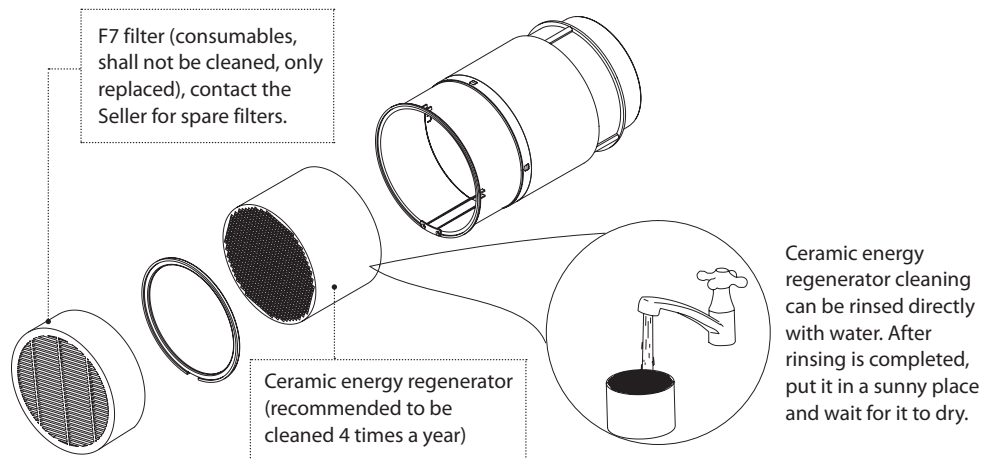
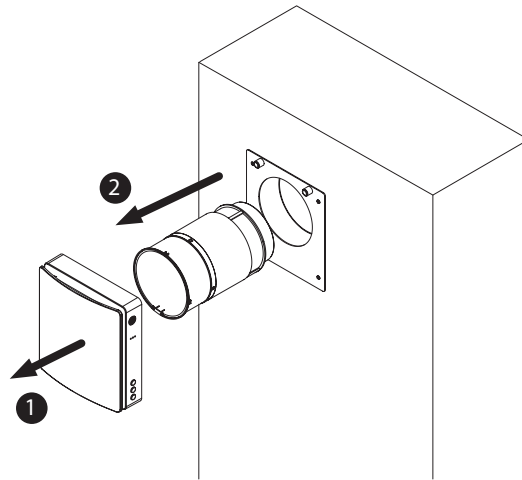
1. Return to the app operation connection page, long press the device that needs to be disconnected, then the option to remove the device will appear at the bottom.
2. Click on the remove device option and confirm to successfully disconnect the device from the WIFI.

► MAINTENANCE

After unplugging the connecting wires of the main unit and the inner duct, remove the main unit and the inner duct from the wall separately.

Pull the rope at both sides of the ceramic energy regenerator and F7 medium filter and take off the both F7 filter and ceramic energy regenerate from the inner duct.

- The ceramic energy regenerator should be cleaned at least 4 times a year.
- The F7 filter should be replaced regularly, it's recommended to change it every 30 days.
(The ceramic energy regenerator is fragile, it should be carefully pulled to avoid damage.)

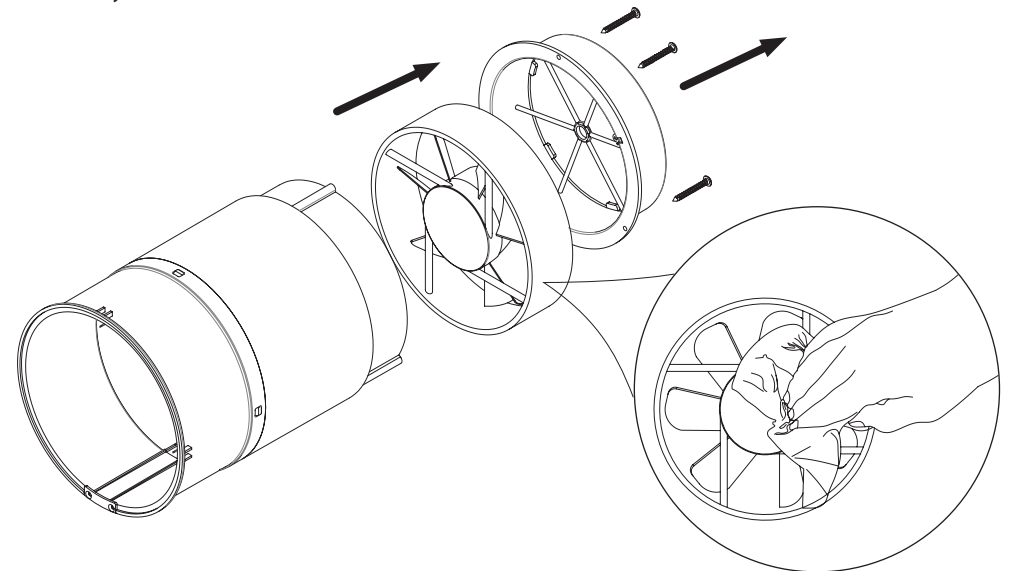


Even regular technical maintenance may not completely prevent dirt accumulation on the regenerator assemblies.
Subject the exchanger to regular cleaning to ensure high heat exchange efficiency.
Clean the exchanger with a vacuum cleaner at least once a year.

Fan Maintenance (Once Per Year).

Remove the fixed bracket in the inner duct and take out the fan.

Clean the impeller blades. Use a soft brush, doth, or a vacuum cleaner to clean the impeller. Do not use water abrasive detergents, solvents, or sharp objects. The impeller blades must be cleaned once in a year.



► STORAGE AND TRANSPORTATION RULES

Store the ventilator in the manufacturer's original packing box in a dry place.

The storage environment must not contain aggressive vapors and chemical mixtures provoking corrosion, insulation, and sealing deformation. Use hoist machinery for handling and storage operations to prevent ventilator damage in a consequence of failing or excessive oscillation. Fulfill the handling requirements applicable for the applicable freight type.

Transportation with any vehicle type is allowed provided that the ventilator is protected against mechanical and weather damage.

Avoid any mechanical shocks and strokes during handling operations.

► TROUBLESHOOTING

Fault	Possible reasons	Fault handling
The fan does not start up during the ventilator start-up.	No power supply.	Make sure that the ventilator is properly connected to the power and make any corrections, if necessary.
	The motor is jammed, or the impellers are clogged.	Turn the ventilator off. Troubleshoot the motor jam and the impeller dogging. Clean the blades. Restart the ventilator.
Low airflow.	Low setting fan speed.	Set higher speed.
	The filter, the fan, or the exchanger are dirty.	Clean or replace the filter, and clean the fan and the exchanger. For the exchanger and the filter maintenance, refer to page 14.
Noise, vibration.	The impeller is dirty.	Clean the impeller.
	Loose screw Connection of the ventilator casing or the ventilation hood.	Tighten the screws of the ventilator or the outer ventilation hood.
Master-Slave units connection failed.	Master-Slave units setting by a different controller.	According to the manual, use the same remote controller for the Master-Slave units settings.
	The ventilator is installed in where has a lot of metal surrounding/there are interference sources around.	Excessive metal structures and interference sources around will weaken the wireless signal, please remove these interference sources or change the installation location.
	The distance between Master and Slave units is too long/the wall between them is too thick.	Please change the installation location according to the distance indicated in the manual.
	Other	Please reset the Master-Slave setting (press and hold the RESET button for ten seconds), and set it again after a period of power off.
WiFi connection failed.	The mobile phone is connected to the WiFi 5G network.	Please switch to the 2.4G frequency/network to connect.
	Wrong connected to public WiFi (such as WiFi in shopping malls, hotels, etc. That need to be registered and logged in).	Please set up the WIFI router correctly.
	The router has not yet set an account and password.	
	The router is set to a higher security level.	
	Exceeded the limit of devices that can be connected to the router.	
	Bluetooth on the mobile phone is off.	Enable Bluetooth on the mobile phone to improve the success rate of networking.