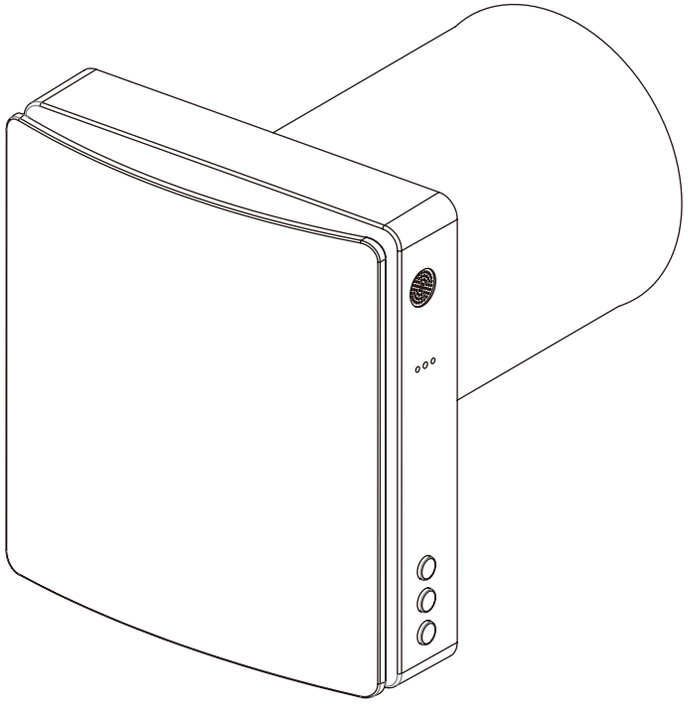
Aire-Fresh

Single Room
Energy Recovery Ventilator
Instruction Manual

WAYSOS



C US
303708

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SAFETY REQUIREMENTS

- Read the user's manual carefully before 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 instructions may result in personal 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.
- Don't allow children to play with the appliance.
- Don't allow children to clean and maintain without supervision.
- If the power cord is damaged, it must be replaced by the manufacturer or its service agent or similarly qualified person in order to avoid a hazard.
- It's suggested to install the ventilator more than 2.1 m above the floor.
- Precautions must be taken to prevent 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) by the backflow of combustion gases. These gases may cause carbon monoxide poisoning. After installation of an exhaust fan such as a partition fan or a duct fan the operation of an open flue gas appliances should be tested by a competent person to ensure that backflow of combustion gases does not occur.
- Don't recharge non-rechargeable batteries.
- Batteries must be inserted with the correct polarity.
- Remove used batteries from the appliance and safely disposed of.
- If the appliance is to be stored unused for a long period, the batteries should be removed.
- Don't short-circuit the power supply terminals.
- Take good care of the remote control to prevent children from swallowing batteries and cause accidents.

Instruction Manual for the user and the qualified installer

Symbol Used In The Manual



WARNING!



DO NOT!

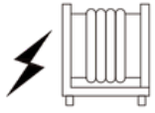
Ventilator Installation Safety Precautions



The ventilator must be disconnected from the power supply before the installation or repair operation.



The ventilator must not be operated outside the temperature range specified in the user's manual or in aggressive or explosive environment.



Do not place any heating devices or other equipment in close proximity to the ventilator power cord.



Do not use damaged equipment or conductors to connect the ventilator to power.



While installing the ventilator, follow the safety regulations specific to the use of electric tools.



Unpack the ventilator with care.



Use the ventilator only as intended by the manufacturer.

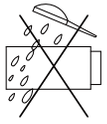
Ventilator Installation Safety Precautions



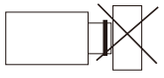
Do not touch the controller or the remote control with wet hands. Do not carry out the ventilator maintenance with wet hands.



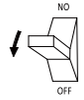
Do not allow children operate the ventilator.



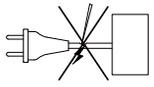
Do not clean the ventilator with water. Protect the electric parts from water ingress.



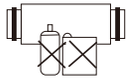
Do not block the air duct when the ventilator is on.



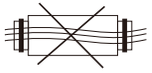
Disconnect the ventilator from the power supply before maintenance.



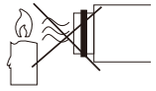
Do not damage the power cable while operating the ventilator. Do not put any objects on the power cable.



Keep explosive and inflammable products away from the ventilator.



Do not open the operating ventilator.



Do not direct airflow from the ventilator onto the open flames 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.

Instruction Manual for the user and the qualified installer

▶ 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 supplies fresh air and extracts air with energy recovery.
- The ventilator is designed for through the wall mounting. The telescopic design of the fan allows its installation in walls from 220 mm to 360mm thick.
- The ventilator is designed for continuous operation always connected to power supply.
- The 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.

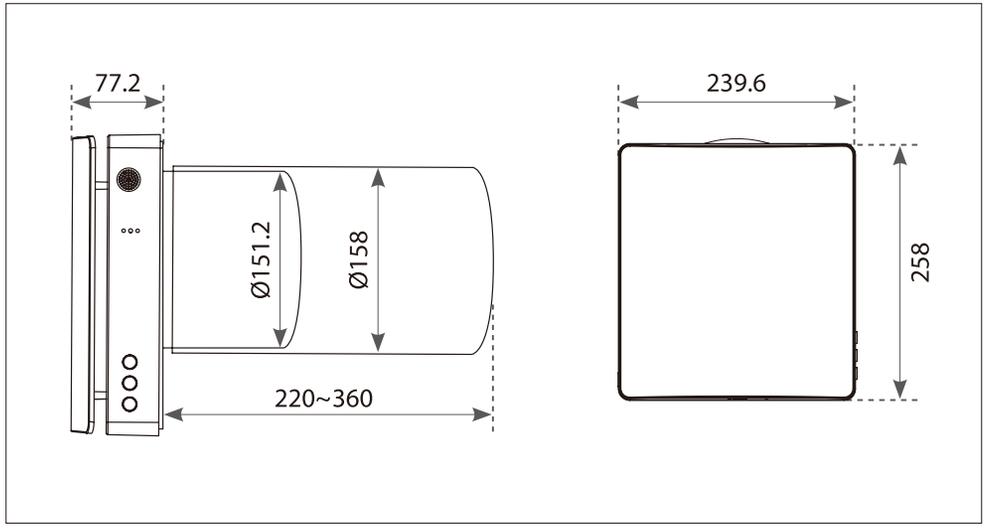
▶ PACKING LIST

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 an 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 subject to continunous improvement, so some models may differ slightly from the models described in this manual.

Ventilator Overall Dimensions (mm)



Description	Unit	Value
Voltage	V	120
Frequency	Hz	60
Input Power	W	9.7/10.7/11.5
RPM	-	1000/1550/1800
RPM (max)	-	2200
Airflow (L/M/H) in supply/exhaust mode (with F7 filter)*	m^3/h	20/40/50
Airflow (L/M/H) in regeneration mode (with F7 filter)*	m^3/h	10/20/25
Airflow in supply/exhaust mode (with F7 filter)*	CFM	11.8/23.5/29.4
Airflow in regenerator mode (with F7 filter)*	CFM	5.9/11.8/15
Max airflow (under fan boost mode)	m^3/h	60
Max airflow (under fan boost mode)	CFM	35
Sound Pressure Level	dB(A)	32.7
Heat Recovery 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

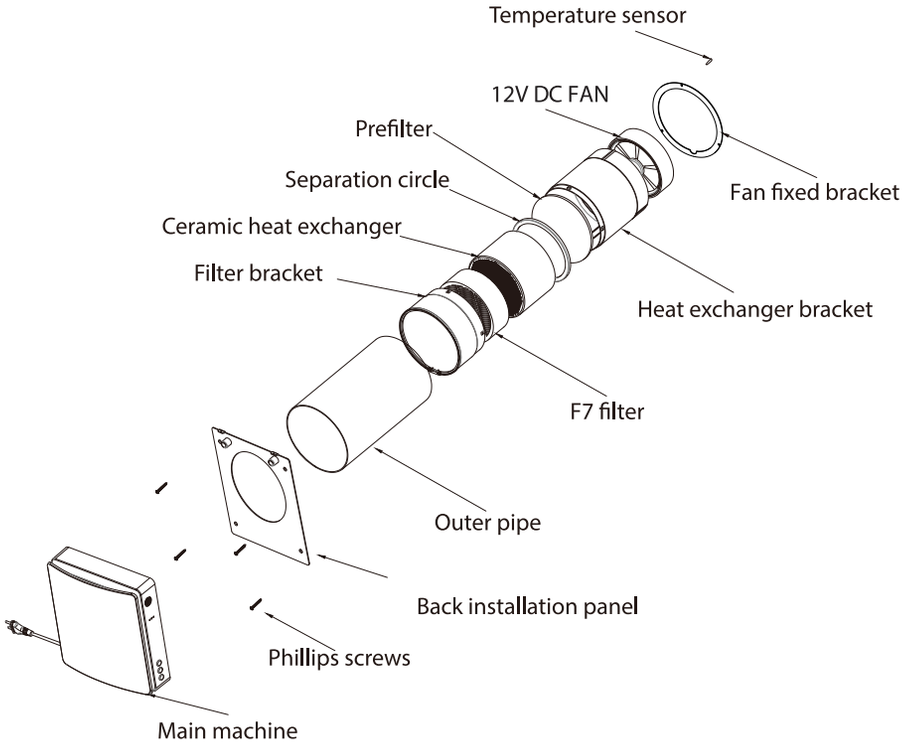
*Note: This product is compatible with an AC voltage range of 100-240V.

*Note: The airflow in supply/exhaust mode without F7 filter is about 34/56/70 CMH or 20/33/41.2 CFM, and the relative parameters will be adjusted accordingly.

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.
- F7 filter+prefilter 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



Instruction Manual for the user and the qualified installer

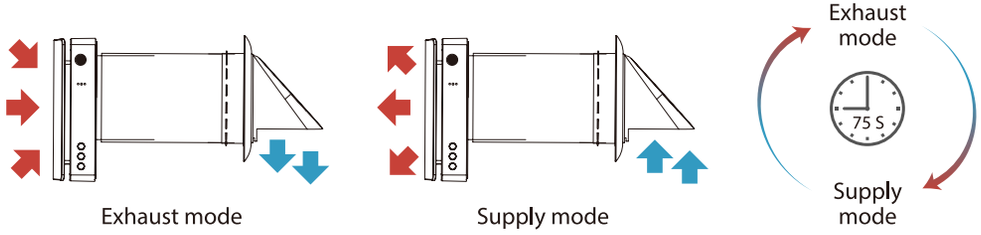
OPERATION MODES

Ventilation Mode. The ventilator runs in exhaust or supply mode at a set speed. When synchronous operation of two connected ventilators, one runs in the supply mode and the other in exhaust mode.

Regeneration Mode. The ventilator runs in two cycles of 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 air supply 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 exhaust mode.



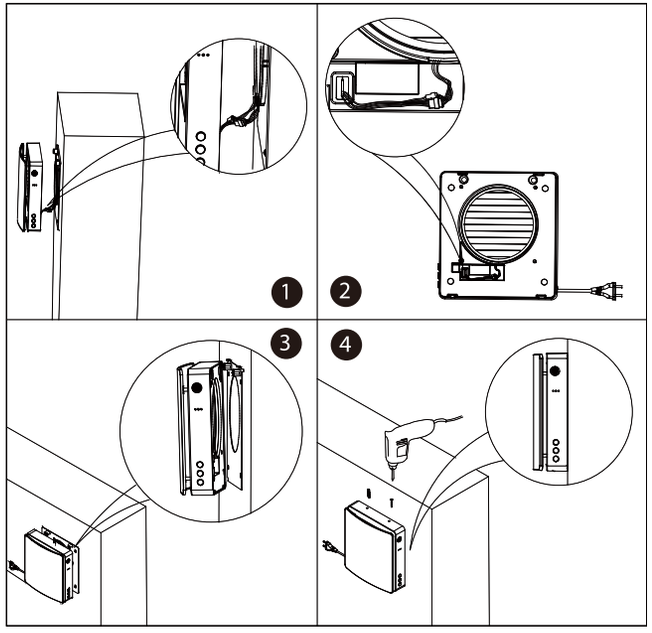
CAUTION!

INSTALLATION AND SET-UP

Read The User's Manual Before Installation The Ventilator

To prevent room dust deposition and accumulation, the ventilator must not be installed in places where the air duct may be blocked by the blinds, curtains, drapes, etc. Meanwhile, curtains might obstruct normal airflow in the room, making ventilator operation inefficient.

4. Install the main unit on the indoor surface wall. Connect the adapter wire from the back of the main unit to the wiring of the fan and temperature sensor exposed in the inner duct and tidy the wiring. Then align and install the main unit with the protruding plastic and metal parts on the back cover plate(There are corresponding concave holes on the back of the main unit). And the powerful magnet equipped in the back of the main unit will automatically attract the wall mounting plate(After installation, please check 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 placed properly. Please remove the main unit and reinstall it). Finally turn the two small M3 screws (included in the kit) into the hole at the top of the main unit (shown in Figure 4), and the installation is complete.



CONNECTION TO POWER

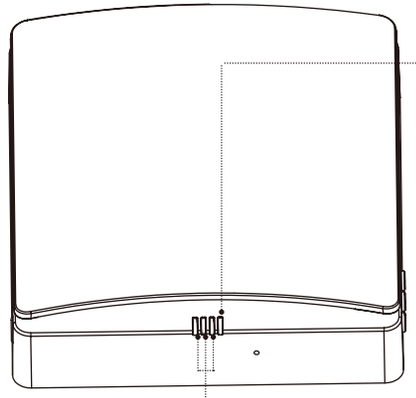
DISCONNECT THE VENTILATION FROM THE POWER SUPPLY TO ANY ELECTRIC INSTALLATION OPERATIONS.

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

Instruction Manual for the user and the qualified installer

FUNCTION DESCRIPTION

Description Of The LEADER Unit



Function Light (RGB-LED)

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

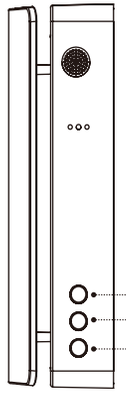
Status Light (RGB-LED)

ON status

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

OFF status (coordinate with the buttons)

1. Blue light flashes slowly: Indicates the device role set as the leader in pairing mode.
2. Green light flashes slowly: Indicates the role of the device set as a follower in pairing mode.
3. Red light flashes slowly: Indicates that the device is in WIFI connection mode.



Leaderunit side

MODE

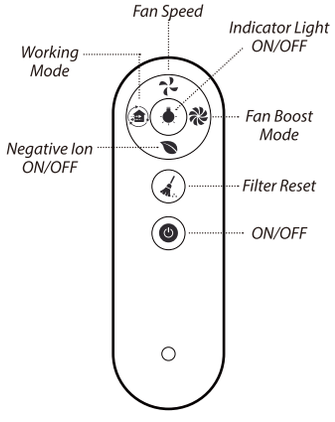
ON state: you can switch the working mode of the device (supply mode, exhaust mode, regeneration mode).

FAN SPEED

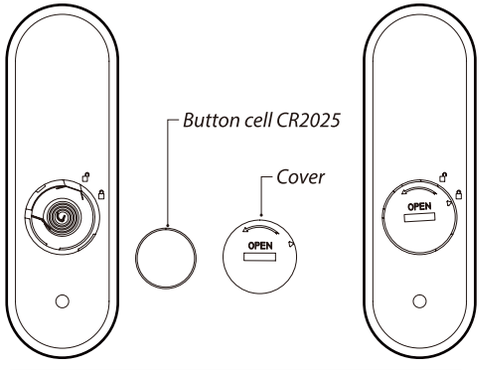
ON state: you can switch the fan speed of the device, 3 speeds in total.

ON/OFF

Control the device to an ON/OFF state.



Remote Control



Please put in the button cell (prepared by user) before using the controller

Remote Controller

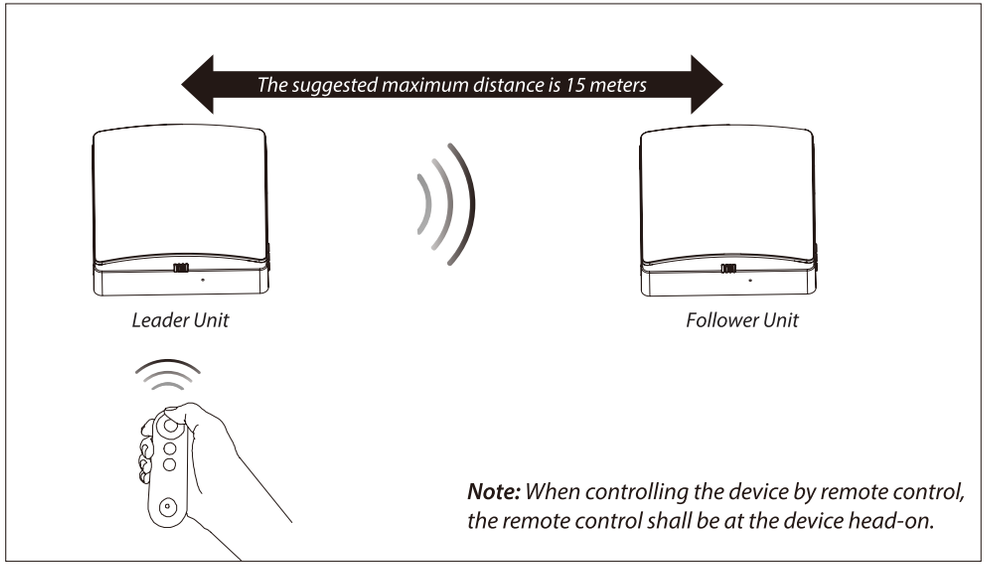
1. **Fan Speed:** switch the fan speed of the device, 3 speeds in total.
2. **Working Mode:** switch the working mode of the device (supply mode, exhaust mode, regeneration mode).
3. **Negative Ion ON/OFF:** Negative ion generator power socket work switch, (when the negative ion function is turned on, the device supplies air when the power supply, negative ion generator needs to be purchased separately and loaded)
4. **Indicator Light:** Control indicator light on and off.
5. **Fan Boost Mode:** Set the fan into the fan boost 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.
6. **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 720 hours)
7. **ON/OFF:** Turn ON/OFF the device.

This remote control uses infrared signals.

1. Before using the remote control, inset the battery into the remote control and screw the battery cover tightly
2. After inserting 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)
3. 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
4. Please store the remote control properly to prevent children from swallowing the batteries and causing accidents.

Instruction Manual for the user and the qualified installer

▶ PAIRING SYNCHRONIZATION FUNCTION



1. Without setting a leader/follower role, one remote control can control one or more devices.

2. After setting the leader/follower role, the current use of the remote control can only control the leader, and the leader will send the synchronization signal to the follower (the follower does not receive the remote control signal), so that the follower mode is synchronized with the leader. (The leader can only control one follower alone).

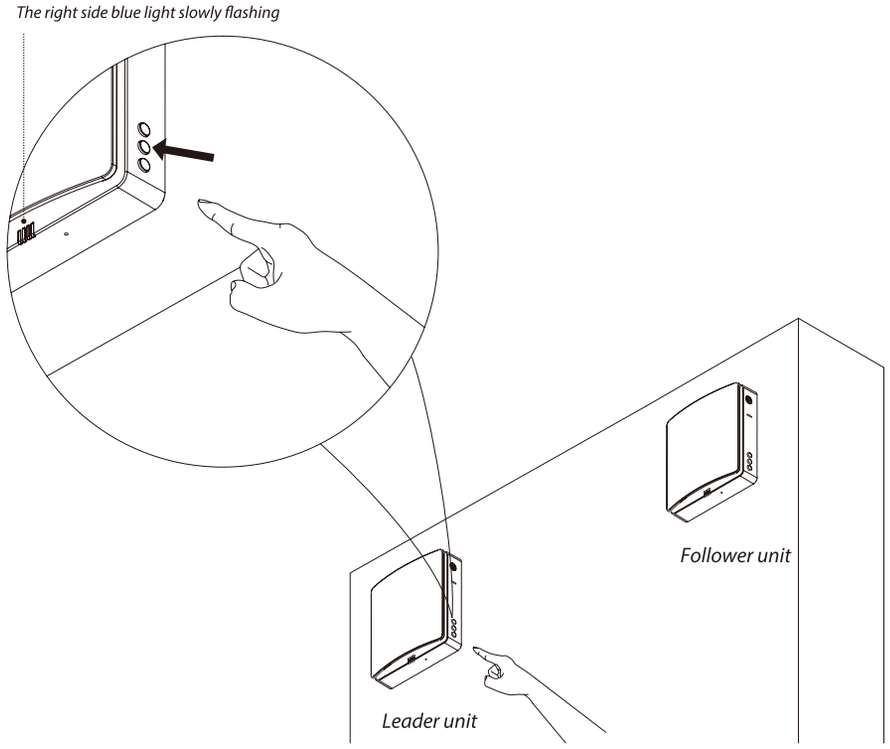
3. In regeneration mode, the operation direction of the follower fan is opposite to that of the leader, and the direction of the follower fan in other modes is the same as that of the leader.

- *The maximum linear unobstructed communication signal distance between leader and follower is 15m.*
- *The signal from the leader and follower can pass through a 180mm thick brick wall.*

▶ LEADER-FOLLOWER UNIT SETTINGS

Leader Unit Settings

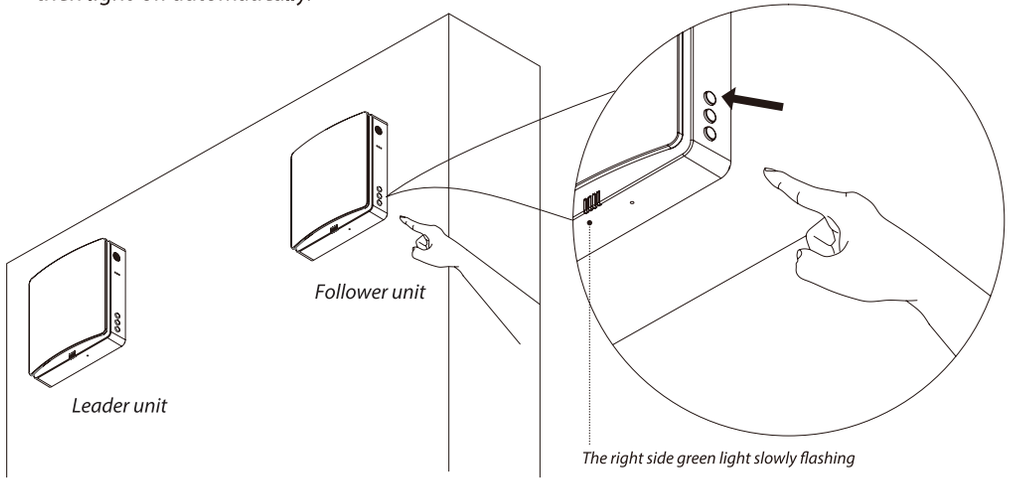
Connect the device with power. In the OFF state, as shown in the figure, long press the fan speed button of the unit for 5 seconds, and the status indicator blue light flashes slowly. At this time, the device enters the leader-follower linkage mode, it is set to the leader role.



Instruction Manual for the user and the qualified installer

Follower 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 leader-follower linkage mode, the unit is set to the follower role.
2. During the leader and follower set pairing 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 will change to blue light ON to indicate that leader-follower pairing is successful.
4. If the leader-follower pairing fails, the status lights on the devices will flash for one minute and then light-off automatically.

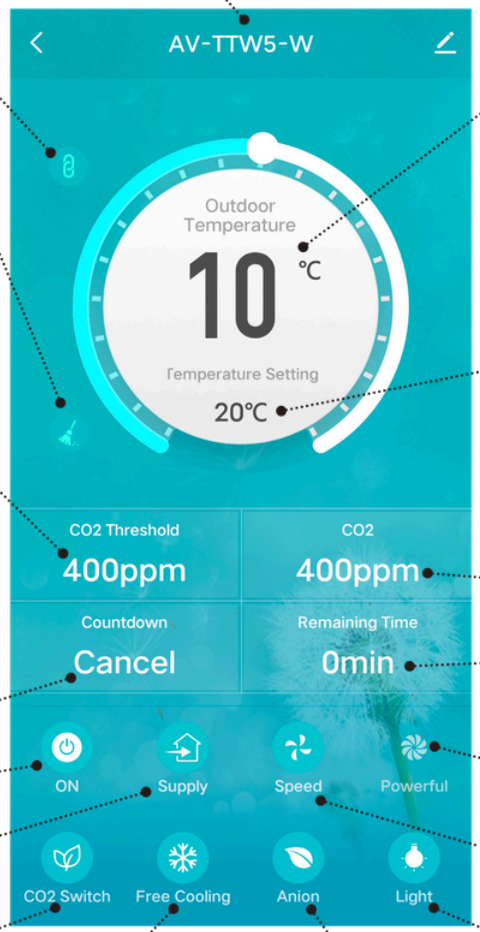


▶ LEADER-FOLLOWER RESET AND CANCELLATION

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 leader-follower linkage mode, the device definition is the leader 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 follower to break off the leader-follower pairing automatically as well. At this stage, the device is reset and restored to the factory state, without any role definition.

IOT NETWORKING FUNCTIONS

CO_2 Version



ERV name. The app can connect multiple devices. Each device will have a different name, and user can change the device name freely.

Pairing icon. After the devices are paired, the icon is displayed, and the slave is offline and can't be operated.

Filter alarm. It reminds the user to clean or replace the filters. Icon disappears after reset.

CO_2 concentration setting. When the CO_2 sensor is connected, if the indoor CO_2 concentration exceeds the set value while the unit is operating in regeneration mode, the unit will enter the supply mode to introduce fresh air to dilute the CO_2 concentration until the CO_2 concentration is lower than the set value. The unit then returns to the previous mode. It can be set from 400 to 2000ppm.

12-hours timer.

Power ON/OFF.

Operating mode (supply mode, exhaust mode, regeneration mode).

CO_2 concentration function ON/OFF.

Free cooling function ON/OFF.

Negative ion function ON/OFF.

Indicator lights ON/OFF.

Outdoor temperature. It displays the outdoor temperature when the unit is ON and operating in supply or regeneration mode. In exhaust mode, the outdoor temperature is not sensed and displayed.

Free cooling temperature setting. When the outdoor air is comfortable, it will work in supply mode to introduce fresh air without heat recovery, it's called free cooling. Users can set the outdoor temperature to enable this function. The setting range is 10°C to 29°C.

Real-time indoor CO_2 concentration.

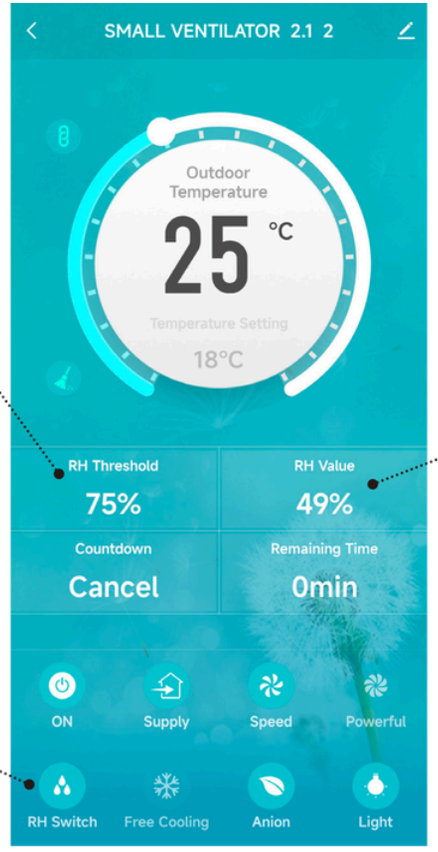
Remaining time after the scheduled shutdown.

Fan boost function. The unit will supply/exhaust at the highest speed.

Fan speed, total 3 speeds.

Instruction Manual for the user and the qualified installer

Humidity Version (Optional)



** Humidity setting: Under regeneration mode, when the indoor humidity level exceeds the set value, the unit will be switched to Exhaust mode to extract the indoor air for reducing the indoor humidity,The unit returns to the previous operation mode when the indoor humidity <set humidity-5%, humidity setting range: 40-95%.*

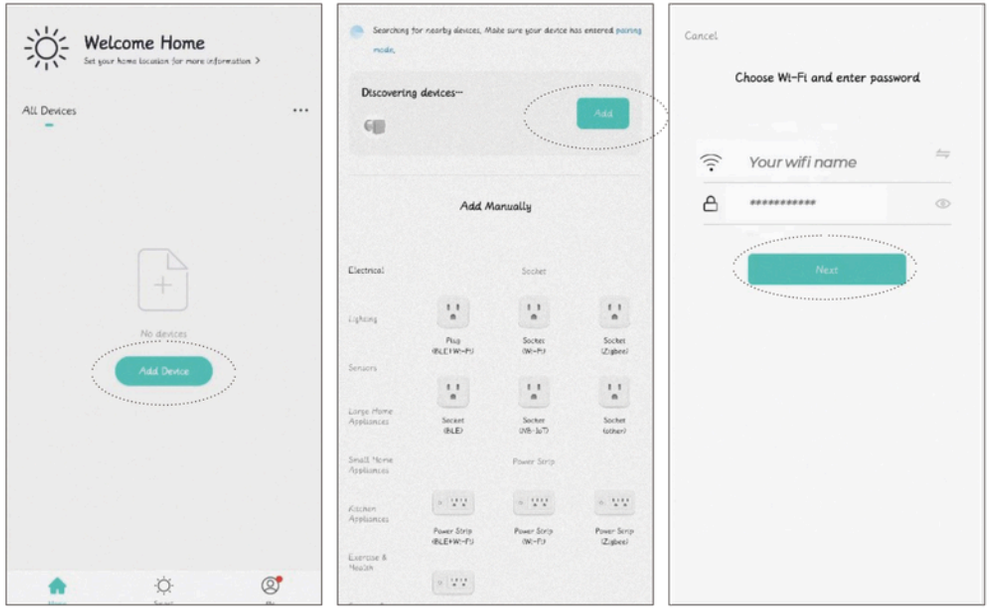
** Humidity function ON/OFF.*

** Real-time indoor RH concentration.*

APP DOWNLOAD INSTRUCTIONS

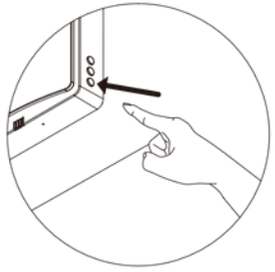
Scan the QR code on the right to download the app, or search"smart life"in the Apple store and Google play store to install the app, download, and install using the device's WIFI connection. It's available for the mobile app to control the device and support Google and Alexa Smart speaker control function.

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.

Instruction Manual for the user and the qualified installer

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 connection to your phone, then log in 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.

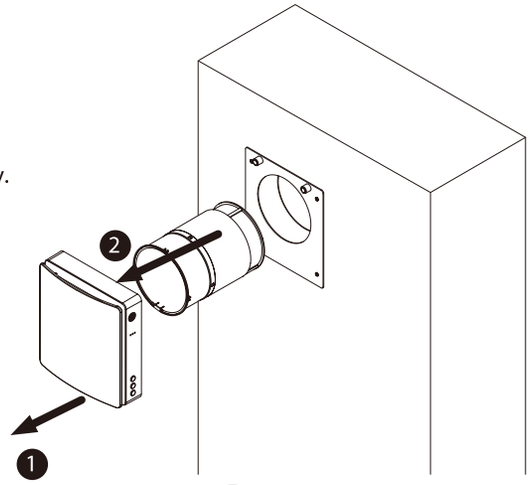
MAINTENANCE

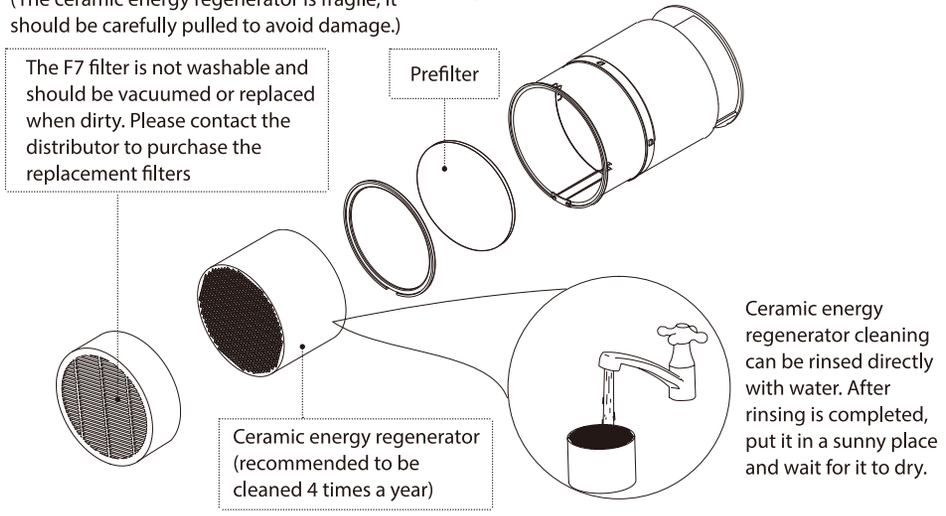
Loosen the screws on the top of main unit. After unplugging the connecting wires ofthe main unit and the inner duct, remove themain unit and the inner duct from the wallseparately.

Pull the rope at both sides of the ceramic energy regenerator and F7 medium filter and take off 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 after the filter alarm.

  (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.

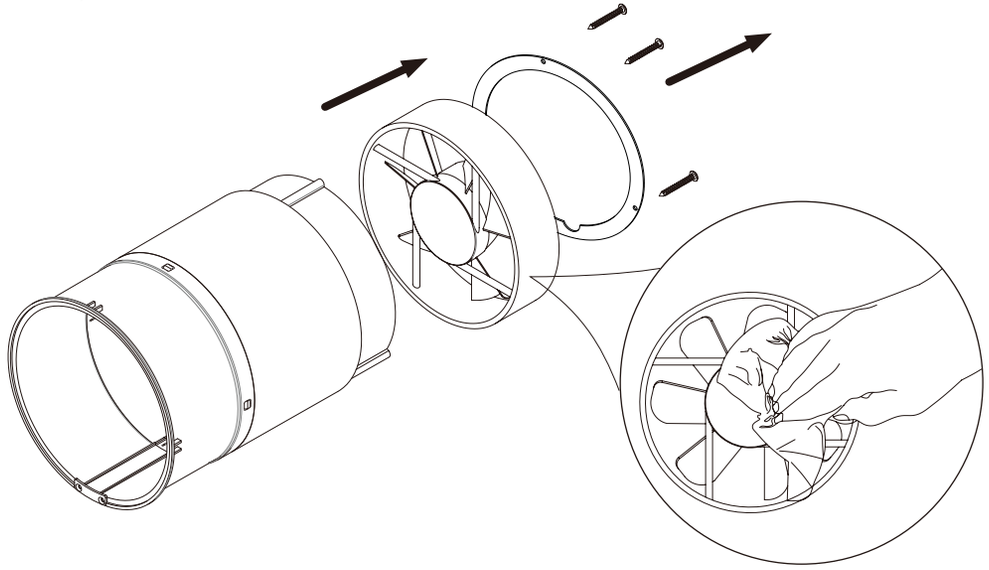
Clean the prefilter at least 4 times a year. The user can wash or vacuum the prefilter. Please note that after washing the prefilter, please dry it and reinstall it in the air duct. The lifetime of the prefilter is about 3 years. Please contact the distributor to purchase the replacement filters.

Instruction Manual for the user and the qualified installer

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 a year.



STORAGE AND TRANSPORTATION RULES

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

The storage environment must be free of contain aggressive vapors and chemical mixtures that may cause corrosion, insulation, and sealing deformation. Use lifting equipment for handling and storage operations to prevent ventilator from damage as a consequence of failing or excessive vibration. Fulfill the handling requirements applicable for the applicable freight type.

Transportation by any type vehicle of 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	Troubleshooting
The fan does not 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 stuck, 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 fan speed setting.	Set higher speed.
	Filter, fan, or exchanger are dirty.	Clean or replace the filter, and clean the fan and the exchanger. For exchanger and filter maintenance, see page 21.
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 hood.
Leader-Follower pairing failed.	Leader-Follower units set by a diff erent controller.	According to the manual, use the same remote controller for the Leader-Follower units settings.
	The ventilator is installed where is surrounded by a lot of metal/ there are sources of interference.	Excessive metal structures and interference sources around will weaken the wireless signal, please remove these sources of interference or change the installation location.
	The distance between Leader and Follower units is too long/the wall between them is too thick.	Please change the installation location according to the distance specified in the manual.
	Other	Please reset the leader-follower 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 up an account and password.	
	The router is set to a higher security level.	
	You have 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.