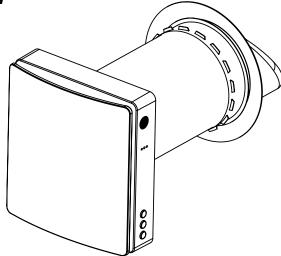
Owner's Manual of Pioneer® Energy Recovery Ventilator



Applicable To Models:

- ERV035AVTTW5W





Attention

Please read this manual carefully before installing or operating the equipment.

Be sure to save this manual for future reference.

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Safety Remarks

▶ SAFETY REQUIREMENTS

- Read the user's manual carefully before operation and installation of the heat recovery ventilator ERV035AVTTW5W.
- Installation and operation of the ventilator shall be performed in accordance with the present user's manual, as well as the provisions of all 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 the appliance 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 (>7 Ft.) above the floor.
- Precautions must be taken to prevent the back-flow of gases into the room from any 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 combustible 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 combustible 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 dispose of them.
- 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 attempting to swallow batteries and/or cause any related accidents.

Safety Remarks

Symbol Used In The Manual



WARNING!



NOT PERMITTED

Ventilator Installation Safety Precautions



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



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



The ventilator must not be operated outside the temperature range specified in the user's manual or in hazardous or combustible areas.



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



Unpack the ventilator with care.



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



Use the ventilator only as intended by the manufacturer.

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Safety Remarks

Ventilator Installation Safety Precautions



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

Do not allow children to

operate the ventilator.

Do not clean the ventilator with water.

Protect all electric



Disconnect the ventilator from the power supply prior to maintenance.



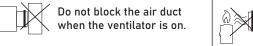
Do not damage the power cable while operating the ventilator. Do not set any objects on the power cable.



Keep explosive and inflammable products away from the ventilator.



Do not open the ventilator while it is operating.



parts from water ingress.



Do not direct airflow from the ventilator toward any open flames or candles.

▶ INTRODUCTION

This user's manual includes technical description operation, installation and mounting quidelines, as well as technical data for the heat recovery ventilator ERV035AVTTW5W.

Product Information

▶ 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 as well as extracts stale air with energy recovery technology.
- · The ventilator is designed for through-the-wall mounting. The telescopic design of the fans allows for installation in walls ranging from 280 mm (11") to 470mm (18"-1/2) thick.
- · The ventilator is designed to remain connected to a power supply for continuous operation.
- · 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 AN APPROPRIATE SAFETY BRIEFING.

THE VENTILATOR INSTALLATION SITES MUST NOT BE ABLE TO BE ACCESSED BY UNATTENDED CHILDREN.

PACKING LIST

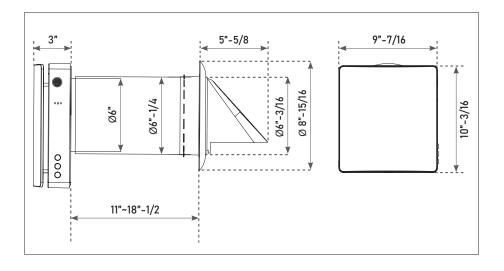
Ventilator	1x
Accessories Bag	1x
Remote Controller	1x
User's Manual	1x
Packaging Box	1x

Specifications

▶ MAIN TECHNICAL PARAMETERS

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

Ventilator Overall Dimensions (in.)



Specifications

▶ TECHNICAL SPECIFICATIONS

Description	Unit	Value
Voltage	V	100-240
Frequency	Hz	50/60
Input Power	W	9.7/10.7/11.5
Current	A	0.14/0.15/0.16
RPM (rated)	-	1000/1550/1800
RPM (max)	-	2200
Airflow (L/M/H) in supply/exhaust mode (with F7 filter)*	m³/h	20/40/50
Airflow (L/M/H) in regeneration mode (with F7 filter)*	m³/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)	m³/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 (in.)	158 (6"-1/4)
SEC	-	Class A
Mounting Type	-	Wall Mounting
Net Weight	kg (lb)	4.2 (9.25)

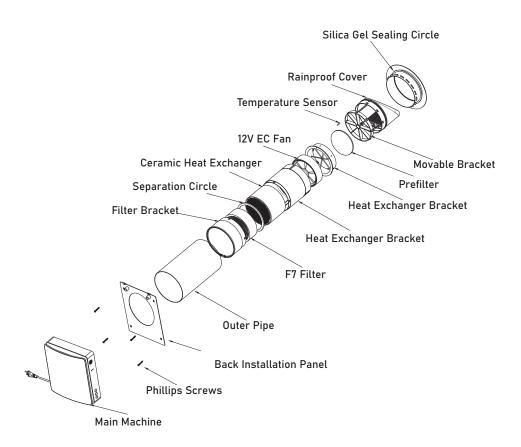
^{*}Note: The airflow in supply/exhaust mode without an F7 filter is about 34/56/70 m³/h or 20/33/41.2 CFM, and the relative parameters will be adjusted accordingly.

▶ 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 ingressing 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 insulated material which is also used as a sealant.
- The ventilator is able to be installed from the inner side of the wall.

Specifications

▶ INSTALLATION DRAWING



Overview

▶ OPERATION MODES

Ventilation Mode - The ventilator runs in exhaust or supply mode at a set speed. When synchronous operation of two connected ventilators occurs,

When synchronous operation of two connected ventilators occurs, one runs in the supply mode and the other in exhaust mode.

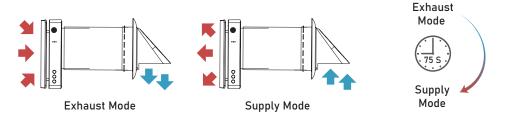
Regeneration Mode - The ventilator runs in two cycles of 75 seconds each, to

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 switches 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, and when the energy regenerator gets cold, the ventilator switches to the exhaust mode.





INSTALLATION AND SETUP

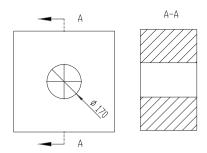
Read The User's Manual Before Installing The Ventilator

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

Installation

▶ VENTILATOR INSTALLATION

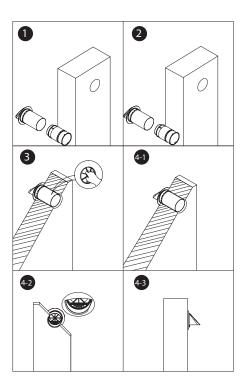
Drill a 170 mm (6"-3/4) round hole in the wall.
 The hole size is shown below.



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 orients downward according to the indicator of the external ventilation hood.

(The outer duct cannot be longer than the wall thickness, and the extra parts can be removed. For installation of outer ducts with/without accessories, please refer to step 5).



Installation

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

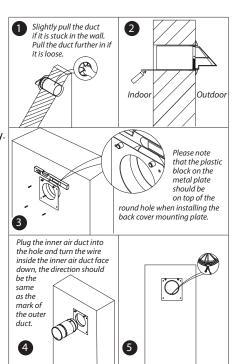
Fill the space between the wall and the outer duct with the polyurethane glue provided in the kit before attaching the back cover mounting plate, and then wait for the glue to dry.

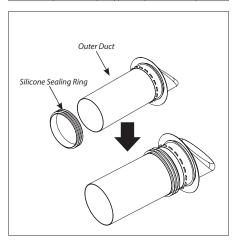
Then install the back cover mounting plate, align the round hole of the back cover of the mounting plate with the round hole on the wall, and measure the level of the mounting plate with a level ruler to ensure that the mounting plate installation is horizontal. Then mark the hole, punch in the expansion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

3. If there are no scenarios in the environment of the installation where rainwater can directly spill into the ERV, you can insert the accessory silicone seal from the accessory bag into the outer air duct, and then install the duct into the wall.

It can be sealed with the wall, whereby the duct plays the role of waterproofing.

In this case, it will be possible to proceed without carrying out Step 2, and there is no need to use polyurethane 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).

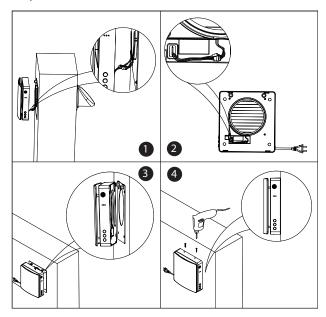




Installation

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 rear of the main unit).

The strong magnet equipped on the back of the main unit will automatically attract the wall mounting plate (After installation is complete, check if there is a large gap between the main unit and the mounting plate. If so, 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 VENTILATOR FROM THE POWER SUPPLY PRIOR TO PERFORMING ANY ELECTRIC INSTALLATION OPERATIONS. THE VENTILATOR IS DESIGNED FOR CONNECTION TO 1-PHASE AC100-240V/50-60 HZ POWER SUPPLY. CONNECT THE VENTILATOR TO THE SOCKET DIRECTLY.

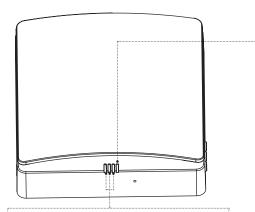
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Operation

▶ FUNCTION DESCRIPTION

Description Of The Master Unit

Master Unit Front



Function Light (RGB-LED)

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

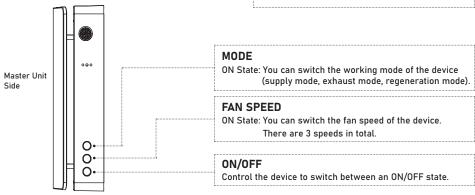
Status Light (RGB-LED)

ON Status

- Blue light is on: Pairing mode is activated, and the linkage communication function is active between the master and slave units.
- Green light is on: IoT function is enabled, Wi-Fi is connected successfully, and user is able to control the device from the phone.
- 3. Red light is on: Filter cleaning alarm to remind user that it is time to clean or replace the filter within the inner duct.
- 4. Purple light is on: Indicates the master role in master-slave online mode, the master loT networking function is enabled, and the unit can be controlled by the user's phone.
- Green light flashes slowly: Automatic ventilation function is on and running.
- Blue light flashes slowly: Free-cooling function is on and running.
- Red light flashes three times: Indicates that the filter cleaning is complete and the cleaning time has been reset.

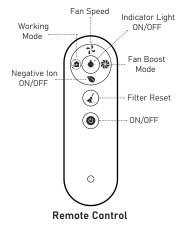
OFF Status (coordinated with the buttons)

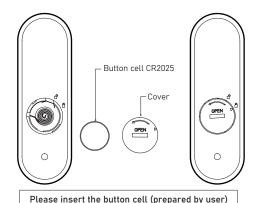
- Blue light flashes slowly: Indicates the device role is set as the master in pairing mode.
- Green light flashes slowly: Indicates the role of the device is set as a slave in pairing mode.
- Red light flashes slowly: Indicates that the device is in Wi-Fi connection mode.



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Operation





before attempting to use the controller.

Remote Controller

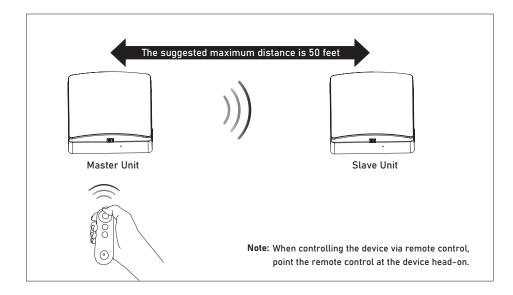
- 1. Fan Speed: Switches the fan speed of the device. There are 3 speeds in total.
- 2. Working Mode: Switches the working mode of the device (supply mode, exhaust mode, regeneration mode).
- 3. Negative Ion ON/OFF: Negative ion generator power socket work switch, (when the negative ion function is turned on, the device supplies air with the power supply. Negative ion generator is purchased separately and added on).
- 4. Indicator Light: Control indicator light for On and Off.
- 5. Fan Boost Mode: Sets the fan into fan boost mode, where the fan runs at maximum power if there is no other setting. The device runs this mode for 30 minutes before exiting automatically.
- 6. Filter Reset: After replacing the filter of the inner air duct, press and hold the button for 5 seconds, the device red light flashes three times, and the filer cleaning time is reset. (Reset time default: 720 hours)
- 7. ON/OFF: Turn ON/OFF the device.

This remote control uses infrared signals.

- Before using the remote control, insert the battery into the remote control and close the battery cover tightly.
- 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 (Do not tighten the cover with your bare hands to avoid potential injury).
- 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. Once loose, the battery can be removed.
- Please store the remote control properly to prevent children from attempting to swallow batteries and/or other potential accidents.

Operation

▶ PAIRING SYNCHRONIZATION FUNCTION



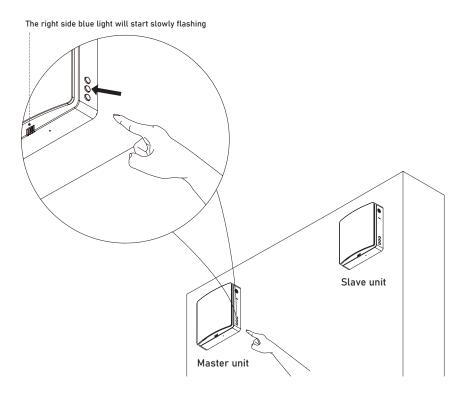
- 1. Without setting a master/slave role, one remote control can control one or more devices.
- After setting the master/slave role, the current use of the remote control can only control the master, and the master forwards the synchronization signal to the slave (the slave does not receive the remote 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 50 feet.
- The signal from the master and slave can pass through an up to 7 inch thick brick wall.

Operation

▶ MASTER-SLAVE UNIT SETTINGS

Master Unit Settings

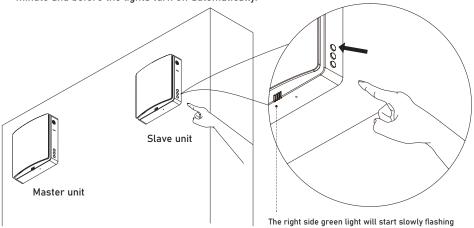
Connect the device to power. In the OFF state, as shown in the figure, press and hold the fan speed button of the unit for 5 seconds, and the status indicator blue light flashes slowly. Once done, the device enters master-slave linkage mode, and is set to the master role.



Operation

Slave Unit Settings

- Connect the device to power. In the OFF state, as shown in the figure, press and hold the mode button of the device for 5 seconds, and the status indicator green light will start flashing slowly.
 Once done, the device enters master-slave linkage mode, and the unit is set to the slave role.
- During the master and slave set pairing mode, it must be carried out at the same time inside a limited time (within 1 minute). The devices should be as close as possible. The devices will be automatically connected.
- The status light of the paired devices will change to blue light ON to indicate that the master-slave pairing is successful.
- If the master-slave pairing fails, the status lights on the devices will flash for one minute and before the lights turn off automatically.



▶ MASTER-SLAVE RESET AND CANCELLATION

Connect the device to 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 will start flashing slowly. At this time, the linked device enters master-slave linkage mode, and the device defaults to the master role. It should be carried out at the same time inside a limited time (within 1 minute). Wait for the status indicator lights to come off automatically, whereby the device disconnects from the slave to break off the master-slave pairing automatically. At this stage, the device is reset and restored to the factory state, without any role definition.

Wi-Fi Connection

▶ IOT NETWORKING FUNCTIONS

CO₂ Version

ERV name: The app can connect multiple devices. Each device will have a different name, and users 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 controlled

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

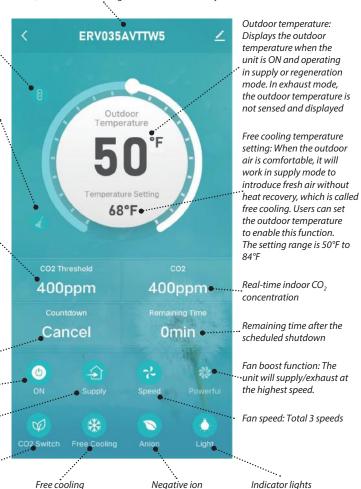
CO₂ concentration setting: When the CO₂ sensor is connected, if the indoor CO₂ concentration exceeds the set value while the unit is operating in regeneration mode, the unit will enter the supply mode to introduce fresh air to dilute the CO₂ concentration until the CO₂ concentration is lower than the 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)

CO₂ concentration function ON/OFF



Wi-Fi Connection

Installation of "Pioneer Airlink" smartphone application

Search for "Pioneer Airlink" in the Google Play Store (for Android users) or the App Store (for iOS users). Note that a 2.4GHz Wi-Fi connection is needed to use the Wi-Fi control feature.



Or, scan the below QR code to download the app from the respective app store.



Download Android App



Download iOS App

Wireless Control App Setup Process

1. Registration and Log-In:

If you do not already have a "Pioneer Airlink" account, please create and account and log-in by following the below steps:

- i. Approve the "User Agreement" and "Privacy Policy" when they appear by tapping "I Agree".
- ii. Tap the "Sign Up" button, choose your country, and enter your mobile number/e-mail to register, tick "I Agree" on "User Agreement and Privacy Policy", then tap the "Get Verification Code" button. The phone or e-mail that you're registering will receive a registration verification code.
- iii. Enter the verification code and select a password. You will then either land on the homepage of the App, or back to the login interface to log into the app, by using the account you just created.

2. Adding a New Device:

- Confirm that your phone is connected to Wi-Fi (2.4GHz networks only, 5Ghz will not work).
 Tap the "+" at the top-right corner of the homepage, to enter the device selection page.
- ii. Once you've entered this page, head to your Pioneer ERV system and long press "On/Off" buttons when the ventilator is turned ON, until the Wi-Fi symbol on the display screen flashes. (Fast flashing indicates Wi-Fi connection, slow flashing refers to hotspot network.)

function ON/OFF

ON/OFF

function ON/OFF

Wi-Fi Connection

▶ IOT NETWORKING OPERATION STEPS







- Before enabling IoT networking operation, please connect your cell phone to your home router Wi-Fi, turn on the Bluetooth function of your cell phone, and ensure that the device and cell phone are within the Wi-Fi signal coverage (make sure the router Wi-Fi is enabled for 2.4G network).
- 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 Wi-Fi pairing state, and the cell phone will be available for operation and connection.



- 3. Open the downloaded Pioneer Airlink app, enter the operation page, click the add device box, and search for devices.
- At this time the app receives the signal from the device, then proceeds to add the device for network connection.

Wi-Fi Connection

▶ WI-FI RESET AND CANCELLATION





- 5. Click Add Device to find the Wi-Fi signal of your home router, and make sure the Wi-Fi name on the app is the same as the name of the Wi-Fi connection to your phone, then log in with the Wi-Fi password.
- After successful Wi-Fi 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:

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- 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.
- Click on the remove device option and confirm to successfully disconnect the device from Wi-Fi.

Maintenance

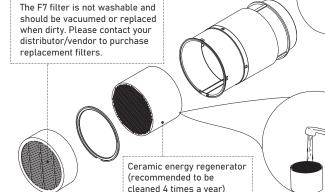
► MAINTENANCE

Loosen the screws on the top of the main unit. 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 cord at both sides of the ceramic energy regenerator, and F7 medium filter and remove both the F7 filter and ceramic energy regenerator 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 each time the filter alert displays.

(The ceramic energy regenerator is fragile, it should be carefully removed to avoid damage.)



Ceramic energy regenerator cleaning: This part can be rinsed directly with water.

Prefilter

Once rinsing is done, place it in a sunlit location and wait until it fully dries.



Even regular technical maintenance may not completely prevent dirt accumulation on the regenerator assemblies.

Treat the exchanger with regular cleaning to ensure high heat exchange efficiency. Clean the exchanger using a vacuum cleaner at least once a year.



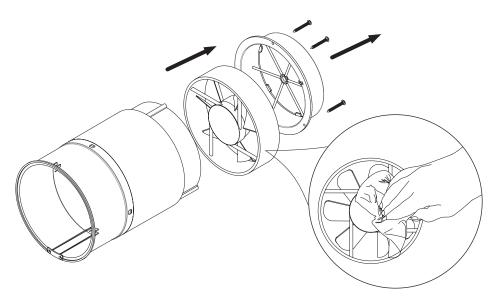
Clean the prefilter at least 4 times a year. The user can wash or vacuum the prefilter. Note that after washing the prefilter, it should be dried and reinstalled in the air duct. The lifetime of the prefilter is about 3 years. Purchase replacement filters from yendor.

Maintenance

Fan Maintenance (Once Per Year)

Remove the secured bracket from within 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 GUIDELINES

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

The storage environment must be free of any 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 relevant to the applicable freight type.

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

Take care to avoid any mechanical shocks and sharp ends during handling operations.

Troubleshooting

▶ TROUBLESHOOTING

Users can often perform basic self-troubleshooting using the below chart, in the event of any faults or malfunctions.

Fault	Possible Causes	Troubleshooting	
The fan does not	No power supply	Make sure that the ventilator is properly connected to the power and make any corrections, if necessary	
start up	The motor is stuck, or the impellers are clogged	Turn the ventilator off. Troubleshoot the motor jam and the impeller blockage. Clean the blades. Restart the ventilator.	
	Low fan speed setting	Set a higher speed	
Low airflow	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 22.	
Noise/vibration	The impeller is dirty	Clean the impeller	
	Loose connection of the ventilator casing or the ventilation hood	Tighten the screws of the ventilator or the outer hood	
Master-Slave pairing failed	Master-Slave units set by a different controller	According to the manual, use the same remote controller for the Master-Slave units settings	
	The ventilator is installed where it is surrounded by a lot of metal/ there are many sources of interference	Excessive metal structures and interference sources around will weaken the wireless signal. Remove these sources of signal interference 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 distances shown 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	
Wi-Fi connection failed	The mobile phone is connected to the WiFi 5G network	Please switch to the 2.4G frequency/network to connect.	
	Wrong connection to public WiFi (such as Wi-Fi in shopping malls, hotels, etc.) User must be registered and logged in	Please set up the Wi-Fi 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	

Contact Information

The design and specifications of this product are subject to change without prior notice as development continues. Consult with the sales agency or manufacturer for details. Refer to the equipment nameplate for all other applicable specifications.



is a registered trademark of Parker Davis HVAC International, Inc.

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