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INDUSTRIAL SOLUTIONS

# Technical datasheet

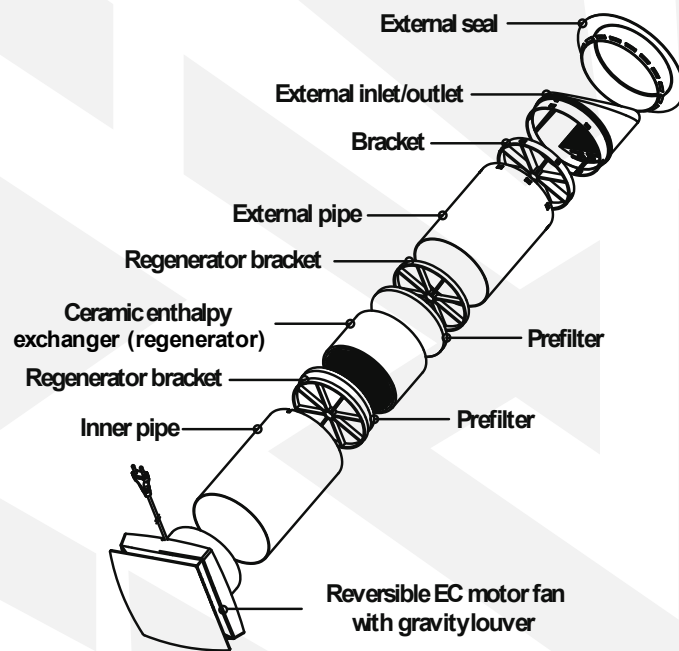
WALL ENERGY RECOVERY UNIT WALLER WIFI



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**2. DEVICE CHARACTERISTIC**

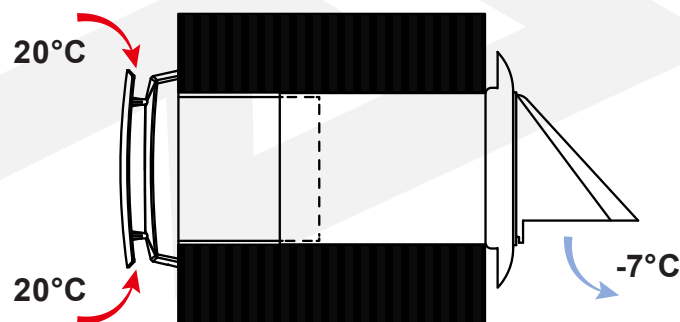
**2.1 CONSTRUCTION**



**2.2 PRINCIPLE OF OPERATION (WORKING MODES)**

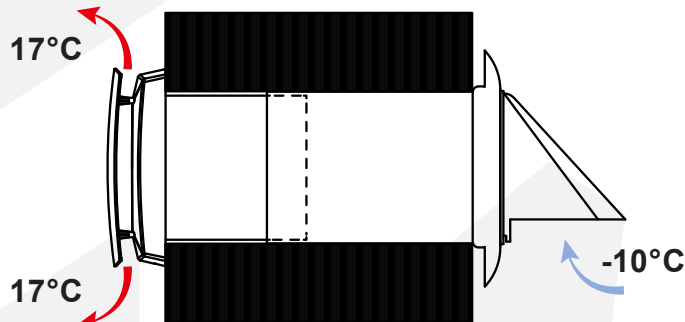
Thanks to the use of the reversible fan, WALLER is a complete supply and exhaust device, enabling energy recovery from the exhaust air. In the regenerative mode, the unit works alternately in two cycles:

**I Exhaust**



In winter, the warm air is extracted from the room (e.g. at a temperature of 20°C as in the above diagram) and goes through the ceramic regenerative exchanger, which absorbs heat and moisture. As a result, the temperature of the exhaust air drops to e.g. -7°C. In summer, the situation is opposite - when the surface of the regenerative exchanger has a temperature higher than the exhaust air, the regenerator cools down by transferring heat to the passing exhaust air. After about 70 seconds of exhausting and a few seconds of pause, the fan automatically switches to the supply mode.

**II Supply**




In winter, the cold outside air (e.g. with a temperature of -10°C as shown in the above diagram) goes through the ceramic regenerative exchanger and absorbs heat and moisture. As a result, the temperature of the supply air increases to e.g. 17°C. In summer, the situation is opposite - when the surface of the regenerative exchanger has a temperature lower than the outside air (because it has been cooled by the exhaust air earlier), the regenerator heats up by taking heat from the outside air. After about 70 seconds of supplying and a few seconds of pause, the fan automatically switches to the exhaust mode.


**1. INTRODUCTION**

Thank you very much for purchasing the wall energy recovery unit WALLER WIFI. Please read and keep this manual for future reference of users and operators.

**1.1 GENERAL INFORMATION**

The owner and the user of energy recovery unit Reventon brand should read carefully this instruction and follow included guidelines. In case of any doubts, please reach out directly to the supplier i. e. company Reventon Group Sp. z o. o. [Ltd.]. The contact data are given at the section 7 (subsection XVII).

 The key recommendations from safety point of view are marked with the warning triangle (like the one on the left). It enables quick and easy localization of these recommendations and remind of them before interference with the unit.

 During installation, usage or maintenance of the unit, all local safety requirements must be respected.

The owner and each user of unit must be familiar with the Warranty Terms included in the section 7 of this instruction and follow its guidelines. In case of any doubts regarding warranty points, please reach out immediately to the company Reventon Group Sp. z o. o. [Ltd.] before taking any action.

The supplier reserves the rights to make changes in the technical documentation without previous notice.

**1.2 STORAGE AND TRANSPORT**

The unit should be stored and transported in its original packaging, in ambient temperature ranging from -20°C to 50°C and relative humidity ≤ 80%.

During collection of the unit, please check the device exactly to exclude any transport damages. If any is observed, the damage report in presence of the item supplier must be filled. Such report is the basement for transport complaint. The damage report must be provided by the carrier.

**1.3 PACKAGE CONTENT**

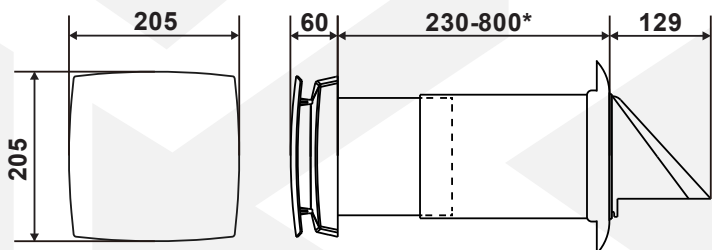
- wall energy recovery unit WALLER WIFI
- remote controller
- mounting accessories (mounting plate, nut, bolt, mounting pin, plastic tube)
- technical documentation including Warranty Card

**1.4 APPLICATION**

The energy recovery unit WALLER WIFI is designed for ductless ventilation of rooms such as a room in a house or a hotel, an office room, a conference room, a cafe etc. However, the device cannot be used in contaminated environments with air containing flammable or explosive substances, chemicals, sticky substances, fibrous materials or soot and oil particles. The unit cannot be also used in places, where it would be exposed to too high humid (relative humidity higher than 80%) or direct contact with water, exceeding the permissible contact due to the protection degree IP.

WALLER can also work in the **ventilation mode**, as a supply or exhaust device only. In such case, the complete mechanical supply and exhaust ventilation can be provided by e. g. two WALLER devices working synchronously, where one supplies fresh air to the room and the other exhausts the used one. However, it should be remembered, that for devices operating in the ventilation mode, there is no energy recovery.

### 2.3 DIMENSIONS



\* to achieve length over 420 mm, WALLER64 extension pipe (product code EP-64-2421) is required; usage of the extension is shown in the section 3.3

### 2.4 TECHNICAL DATA

MODEL		WALLER WIFI
Product code		WALLER-WIFI-2446
Maximal airflow [m <sup>3</sup> /h]	III stage	64
	II stage	55
	I stage	26
Regeneration efficiency [%] (% increase/decrease of the supply air temperature at the beginning of the supply cycle)		≤ 92%
Energy efficiency class [-]*		A
Voltage [V] / Frequency [Hz]		230 / 50 - 60
Nominal motor current [A]	III stage	0.08
Nominal motor power [W]	III stage	12
Nominal motor speed [rpm]	III stage	2000
IP protection rating of motor [-]		22
Net weight [kg]		3.4
Noise at 1.5 m [dB(A)]	III stage	36.7
	II stage	32.9
	I stage	28
Noise at 3 m [dB(A)]	III stage	31.9
	II stage	27.5
	I stage	12

\* according to EU no. 1254/2014

## 3. ASSEMBLY

### 3.1 GENERAL PRINCIPLES

**!** The energy recovery unit should be assembled by a person experienced in mounting of such devices and - if local law requires it - with appropriate qualifications.

**!** It is the responsibility of the assembler to make the mounting according to the guidelines from this instruction and in accordance with the local regulations in force.

After mounting of the device, the assembler is obliged to fill out the Warranty Card (positions 1 and 2). It is also treated as a guarantee, that the assembly was made in accordance with the requirements. The Warranty Card is included in this manual under the Warranty Terms.

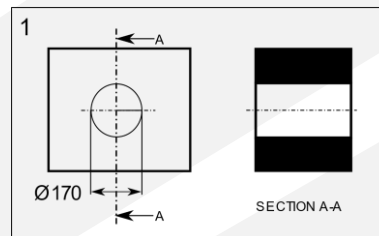
The energy recovery unit WALLER must be mounted in external wall - the exact assembly description can be found in the section 3.2 of this manual. The maximal thickness of this partition cannot exceed 420 mm.

The location of the unit should be selected by taking also into account the local requirements for the location of the air intake and launcher for the external inlet/outlet. If these requirements are mutually exclusive, reach out to the supplier.

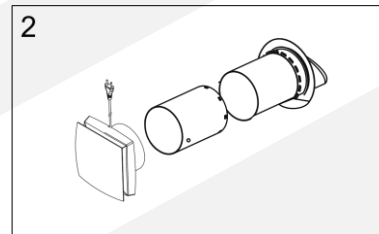
The unit WALLER must be mounted in the wall with a slope of 3 - 5° towards to the external inlet/outlet.

### 3.2 ASSEMBLY STEP BY STEP

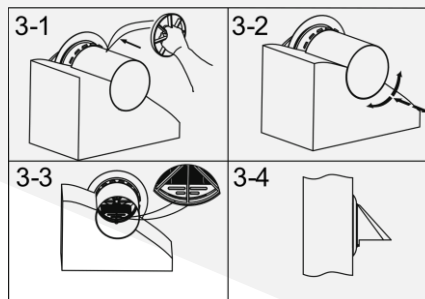
1 - Make a through hole with a diameter of 170 mm in the outer wall.



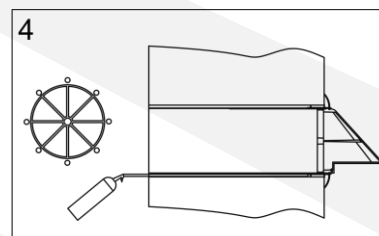
2 - Separate the device into three parts: the external pipe with the inlet/outlet, the external seal and the bracket; the inner pipe with the regenerator, the prefilters and the regenerator brackets and the reversible DC motor fan with gravity louver.



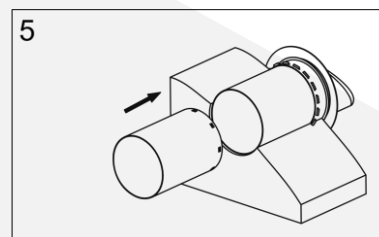
3 - Assemble the external pipe through the wall, so that the external inlet/outlet is on the outside of the building (3-1). Then turn the external pipe to place the inlet/outlet facing down (3-2; 3-3) and pull it from the inner that the seal fits tightly to the facade (3-4).



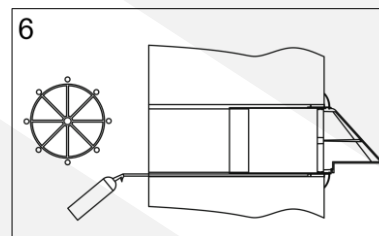
4 - Fill the gap between the wall and the device with PU foam, fixing the device to the partition at least in eight places (e.g. according to the bracket's arms) along the entire thickness of the wall. The application of the foam inside the wall is facilitated by the plastic tube included in the set.



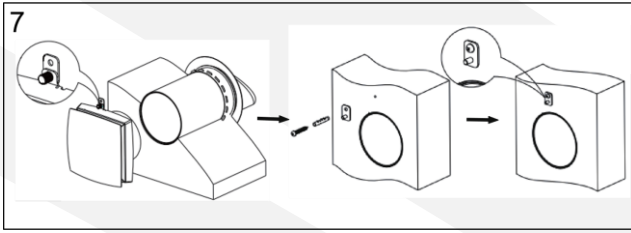
5 - After the foam is dry, insert the inner pipe (including the regenerator, the prefilters and the regenerator brackets) into the external pipe and align it with the inner wall surface.



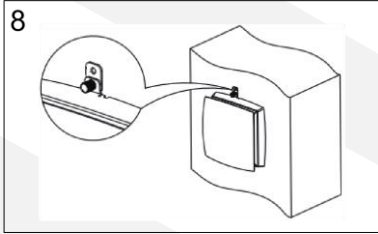
6 - If, due to the wall thickness, the inner pipe faced with inner surface of the wall comes out of the external pipe, the inner pipe must also be fixed to the partition with foam as shown in step 4.



7 - Try and assemble the mounting plate using the included screw and the mounting pin in a way, that the round flange of the fan is hidden in the inner pipe and the fan's housing is faced with the inner wall surface.

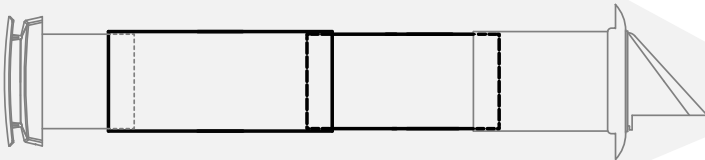


8 - Screw the fan together with the housing to the mounting plate using the attached nut.



### 3.3 WALLER64 EXTENSION PIPE

Using WALLER WIFI extension pipe ([product code EP-64-2421](#)), it is possible to prolong the pipe to 800 mm. The extension should be assembled like on the picture below (marked with bolded lines). It is not recommended to extend the piping over 800 mm, as it would influence the airflow significantly.



## 4. INSTALLATION

**!** Before connecting the unit to an electrical installation, it must be assembled permanently to a suitable partition (according to the recommendations contained in the section 3).

### 4.1 CONNECTION TO ELECTRICAL INSTALLATION

The device should just be plugged into an electrical socket type C, E or F with the appropriate power supply parameters (see the table in the section 2.4).

## 5. EXPLOITATION

### 5.1 EXPLOITATION PRINCIPLES

- !** The user is obliged to be familiar with this instruction before exploitation of the device.
- !** Before any interference in the device, the electricity supply to the unit must be absolutely cut off (pull the device's plug).
- !** Access to the device by parties like unauthorised people, children and animals is forbidden and should be prevented or at least hindered.
- !** Operation of open device is forbidden (e.g. with separated fan with housing).
- !** The device cannot work with covered or restricted air inlet or outlet (e.g. as a result of not keeping the minimum distances from partitions or obstructed inlet/outlet).
- !** The unit is designed for handling of air at temperature ranging from -20°C to 50°C and with relative humidity ≤ 80%.

If the regenerator becomes frost-covered, it is recommended to switch the operation mode to the exhaust ventilation one (see the operating modes in the section 2.2) and only exhaust the air until the regenerator defrosts again.

**!** In case of any malfunctions in the operation of the energy recovery unit, immediately cut off the device from the electrical system and contact directly with the supplier or the distributor.

**!** If the device is not used for a longer time disconnect the unit from the electrical installation.

**!** The device should be serviced periodically. In order to do that, cut off the unit from electricity, disassemble the fan with the housing (by unscrewing it from the mounting plate) and remove the prefilters and the regenerative exchanger (by removing the internal regenerator bracket). Then:

- clean the fan, its housing and louver from residue with a soft cloth at least once a year

- wash the prefilters in warm water with detergent at least four times a year (NOTE! The prefilters must be dried before reassembly)
- wash the regenerator in warm water (without detergent) at least once a year (NOTE! The regenerator must be dried before reassembly)

**!** The unit must be maintained by a user who is familiar with this instruction or by an external entity if due to the way of assembly or local regulations additional authorisations like e.g. working at heights are required. Before starting any maintenance work, the energy recovery unit must be disconnected from the power supply.

**!** The frequency of the service should depend on the actual dirtiness - if the device is operating in an environment with a high concentration of dust, periodic cleaning should be performed much more often than four times a year to prevent "clogging" of the energy recovery unit.

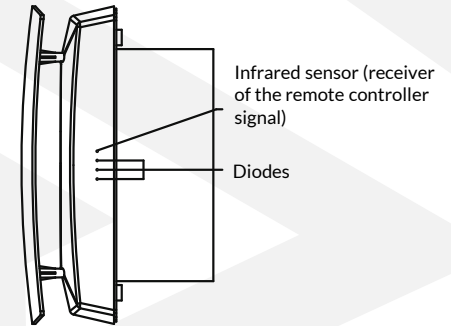
After exploitation time, please utilise the unit according to the local regulations.

## 6. CONTROLLING

The current operating mode is signalled by the LEDs on the device, which, depending on the mode:

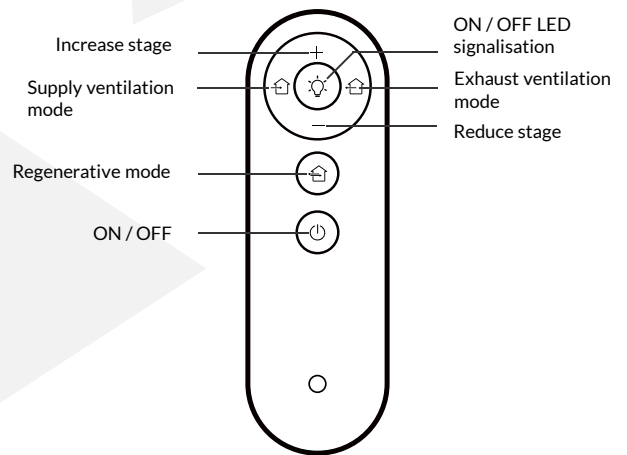
- glow green if the unit operates in the supply ventilation mode
- glow red if the unit operates in the exhaust ventilation mode
- glow yellow if the unit operates in the regenerative mode

The number of lighting diodes indicates the chosen fan stage (1<sup>st</sup>, 2<sup>nd</sup> or 3<sup>rd</sup>).



### 6.1 REMOTE CONTROLLER

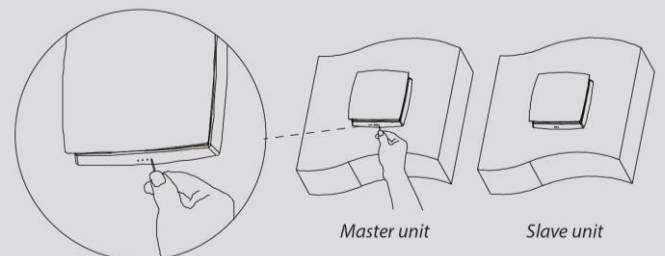
The device is controlled by the remote controller, which need the battery CR2025 (the battery is not included in the set). The operation of each button is explained below.



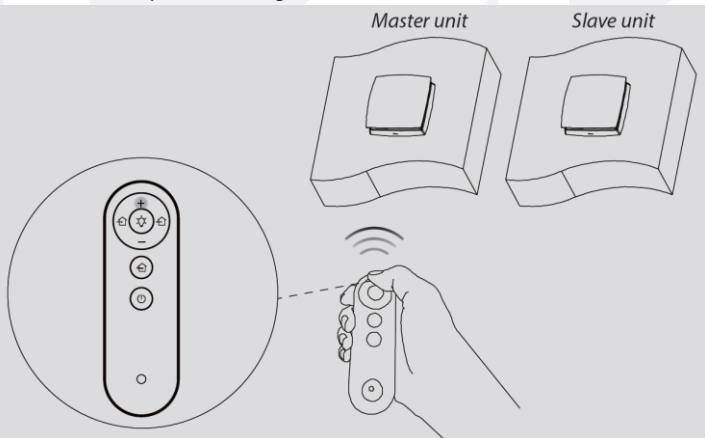
### 6.2 MASTER-SLAVE

#### MASTER UNIT SETTING

1 - Feed power to the ventilator but in OFF state, use a needle to press the Reset button twice quickly (as shown in the figure). One green LED light will flash slowly, indicating that it enters a multiple linkage connection states.

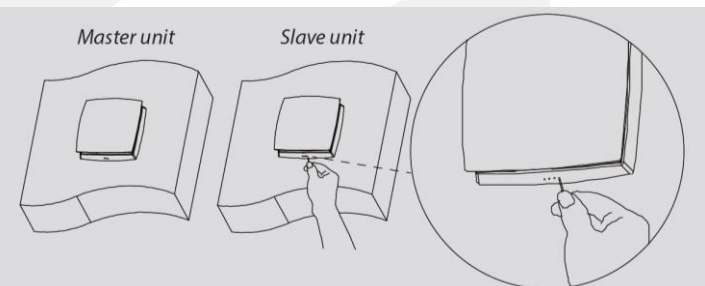


2 - Direct the remote control to the machine and press the “+” button to set the machine to MASTER (as shown in the picture). One green LED light flashes five times and off, then the setting is completed. (Pay attention that after setting the MASTER unit, then this unit can only be controlled by the matching controller).



### SLAVE UNIT SETTING

1 - The same steps as the MASTER setting. Feed power to the ventilator but in the OFF state, use a needle to press the Reset button twice quickly (as shown in the figure). One green LED light will flash slowly, indicating that it enters a multiple linkage connection states.

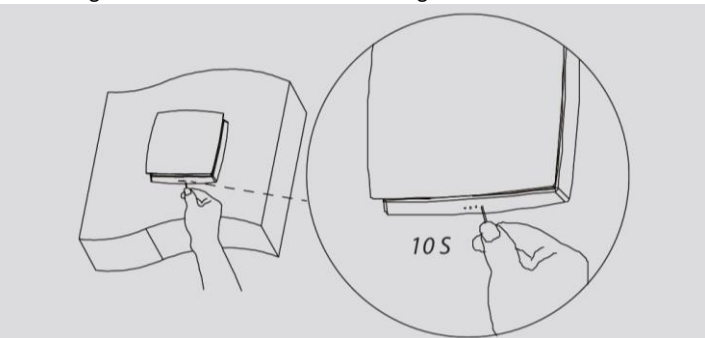


2 - Use the remote controller (the same controller as its MASTER setting), towards the slave unit, and press “-” button to set the machine to SLAVE (as shown in the picture). One red LED light flashes five times and off, then the setting is completed. (multiple slave units can

be set, except for the units which already been set as MASTER).

### MASTER AND SLAVE UNITS RESET AND CANCELLATION

Feed power to the ventilator but in OFF state, use a needle to press the reset button over 10 seconds. Until all yellow LED lights flash 3 times, indicating that the MASTER or SLAVE setting to the ventilator is reset.



### MASTER-SLAVE LINKAGE SYNCHRONIZATION FUNCTION

1 - When the MASTER/SLAVE unit is not set, the remote controller can be used to control any machines independently.

2 - After the MASTER/SLAVE unit is set, the remote controller can only control the MASTER unit.

And MASTER unit sends the signal to the SLAVE unit (the SLAVE unit doesn't receive the remote controller signal), so that the SLAVE unit runs the same mode as the MASTER unit. (One MASTER unit can be connected to multiple SLAVE units).

3 - In the regeneration mode, the fan running direction of the SLAVE unit is opposite to that of the MASTER unit, other states are consistent with the MASTER unit.

» The maximum unobstructed communication signal distance between MASTER unit and SLAVE unit is around 15m.

» The signal of MASTER unit and SLAVE unit can pass through the 180 mm thick wall, but the transmission distance will be slightly reduced.

### 6.3 WIFI CONTROLLING (BY APP)

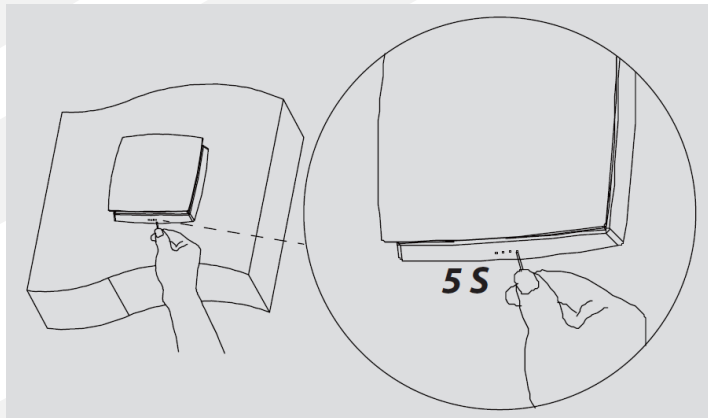
#### WIFI CONNECTION STEP BY STEP

1 - Scan the QR code and search “Smart Vent” from Google Play or App store to download the App.

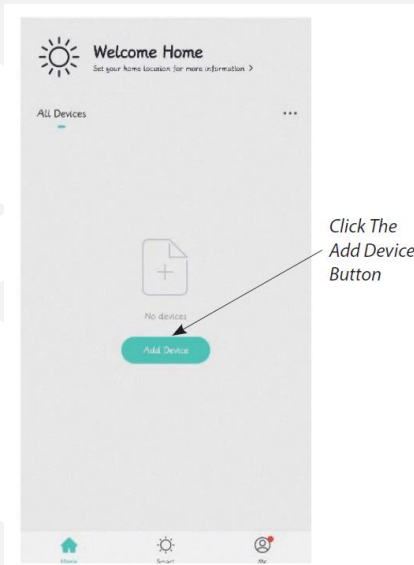


2 - Before linkage connection, please connect the smartphone to the home WIFI router (2.4G only), enable Bluetooth function, and ensure that the phone can receive the WIFI signal when put next to the ventilator.

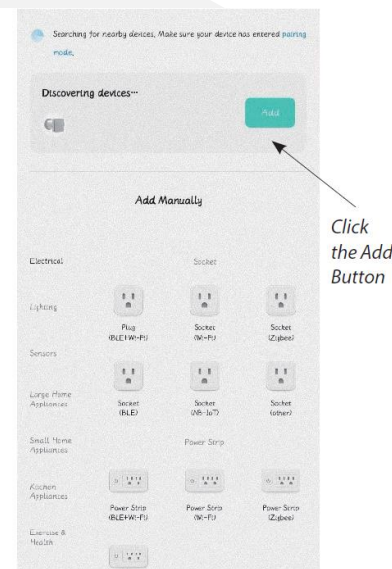
3 - Feed power to the ventilator but in OFF state, use a needle to press the reset button over 5 seconds, until all red LED lights flash - the ventilator is on the WIFI connecting state (red LEDs blink).



4 - Open the mobile app, enter the operation page, click add device and then search for the device.

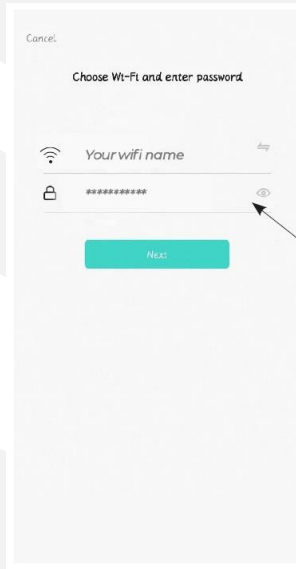


5 - At this time, the app receives the signal from the ventilator. Click Add button to connect the machine to network.

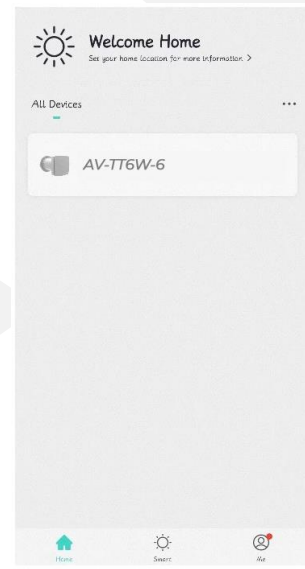


6 - Find the same WIFI signal as the smartphone linked, make sure the WIFI names are the same, and then enter the WIFI password.

7 - After the connection is completed, user can enter the operation page to control the ventilator.



Connect Your Wifi



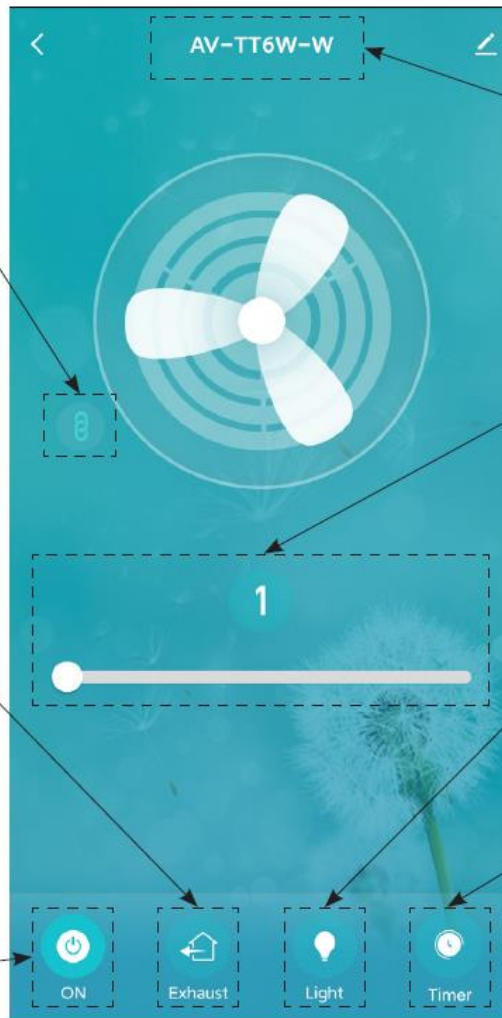
### APP INTERFACE

The connected ventilator is the MASTER one.

*Any SLAVE ventilator is not able to be connected to the network. If a ventilator is connected to the network before the SLAVE setting, it will go offline once being set as the SLAVE. This linkage icon only displayed when MASTER and SLAVE linkage is set.*

Working mode (supply air mode, exhaust air mode, regeneration mode)

On/Off button



The name of the connected ventilator. Multiple ventilators can be connected with different names.

Fan speed setting, 3 speeds in total.

Illumination (LED lights) On/Off

Timer setting button

Set the timer on/off, under the setting period, can set the working mode and fan speed together.

## 7. WARRANTY TERMS

I. The company Reventon Group Sp. z o. o. [Ltd.], hereinafter referred to as the guarantor, provides 24-month warranty protection period for the following devices:

- wall energy recovery unit WALLER WIFI

II. The warranty protection is valid from the purchasing date by end user (i.e. the issue date of invoice) but not longer than 30 months from leaving the warehouse of Reventon Group Sp. z o. o. [Ltd.].

III. The warranty claim should be reported via the complaint form on the website (<https://reventongroup.eu/en/complaints>). The scan or the photo of the fulfilled Warranty Card and the purchase invoice must be attached to the form. The Warranty Card is not required in case of accessories.

IV. The guarantor is committed to consider the claim within 14 working days since the date of reporting (i. e. the day of receipt of the correctly fulfilled warranty form).

V. In exceptional cases, the guarantor reserves the right to extend the time for consideration of the request, especially if the defect is not permanent one and its determination requires a deeper analysis. The extension must be notified by the guarantor before the end of the 14<sup>th</sup> working day.

VI. Under the warranty, the guarantor provides a repairment, replacement (the device or its component) or refund for the defective item within a specified time.

VII. In the case of replacement of a device component, the warranty protection of the whole unit is not prolonged.

VIII. The guarantor does not cover the costs of disassembly and eventual reassembly of the complaint device.

IX. The guarantor may decide to bring the defective device or its component to the service of Reventon Group Sp. z o. o. [Ltd.]. In such case the transport of the item is organised and paid by the guarantor. The responsibility of the device's owner is to prepare the item for the shipment - the device must be packed in a way which protects it against transport damages and the dimensions and weight of the package must not exceed 660 x 650 x 400 mm and 30 kg respectively. In the case of elements which cannot be packed in this way, the method of shipment must be agreed and approved by Reventon Group Sp. z o. o. [Ltd.]. In the case of sending a non-standard package without agreement of the service of Reventon Group Sp. z o. o. [Ltd.], the guarantor reserves the right to charge the owner of device with all additional transport costs.

X. In the case of arrival of the authorized service of the guarantor or an installer to fix the complaint item, the customer must ensure them seamless access to the device and all required media like electricity, water, lighting etc. free of charge.

XI. The warranty protection does not cover the parts of the device subject to the normal usage and the following cases:

a) mechanical damage of the product

b) defects and damages through:

- improper storage or transport

- improper or non-compliant use and maintenance (i. e. inconsistent with the manual)

- using the device in the improper conditions (too high humidity, too high or too low temperature, impact of the surrounding, sun etc.)

- unauthorized (i. e. by the user or other unauthorized persons) repairs, modifications or construction changes

- connecting equipment inconsistent with the technical documentation

- connecting additional equipment, which is not recommended by the guarantor

- improper power supply

- random events (like fire, flood, storm etc.)

c) elements which wear and tear such as discolour of the housing

If there is any of the above, the claimant will be charged for transport and / or repairs.

XII. During collection of the device, the item must be checked exactly by the receiver to exclude transport damages. If any of them is observed, the damage report in presence of the product deliverer have to be filled - such report is the basement for the warranty claim. The damage report must be provided by the product deliverer.

XIII. The guarantor does not take the responsibility for potential losses and damages related to the downtime of the device during its failure and the complaint considering time.

XIV. Any changes in the Warranty Terms, improper use of the product as well as traces of self repairing (beyond the guarantor service) or alterations cause, the warranty become invalid.

XV. These Warranty Terms do not exclude or limit any rights arising from the pledge.

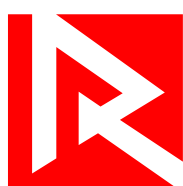
XVI. Not following to any of the warranty regulations makes the protection invalid.

XVII. All correspondence should be sent to the following address: Reventon Group Sp. z o.o. [Ltd.], 556 Wyzwolenia Street, 43 340 Kozy, Poland or email address: [serwis@reventongroup.eu](mailto:serwis@reventongroup.eu).

## Warranty Card

1 - Model and serial number* or product code	2 - Address and place of assembly
3 - Date of connection to:	4 - Stamp and signature of installer:
Heating/cooling installation (if applicable)	
Ventilation installation (if applicable)	
Electrical installation (if applicable)	

\* serial number is required only for water heaters HC-3S, HC-EC and FARMER HCF series and recovery units INSPIRO, INSPIRO BASIC and VERTIC series



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Reventon Group Sp. z o.o. [Ltd.], 556 Wyzwolenia Street, 43-340 Kozy, Poland, [www.reventongroup.eu](http://www.reventongroup.eu)