

USER'S MANUAL

TwinFresh Expert RW1-50 V.3



Single-room reversible energy recovery ventilator

for**i****s.no**

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This user's manual is a main operating document intended for technical, maintenance, and operating staff.

The manual contains information about purpose, technical details, operating principle, design, and installation of the TwinFresh Expert RW1-50 V.3 unit and all its modifications.

Technical and maintenance staff must have theoretical and practical training in the field of ventilation systems and should be able to work in accordance with workplace safety rules as well as construction norms and standards applicable in the territory of the country.

SAFETY REQUIREMENTS

All user's manual requirements as well as the provisions of all the applicable local and national construction, electrical, and technical norms and standards must be observed when installing and operating the unit.

Disconnect the unit from the power supply prior to any connection, servicing, maintenance, and repair operations.

Only qualified electricians with a work permit for electrical units up to 1000 V are allowed for installation. The present user's manual should be carefully read before beginning works.

Check the unit for any visible damage of the impeller, the casing, and the grille before starting installation. The casing internals must be free of any foreign objects that can damage the impeller blades.

While mounting the unit, avoid compression of the casing! Deformation of the casing may result in motor jam and excessive noise.

Misuse of the unit and any unauthorised modifications are not allowed.

Do not expose the unit to adverse atmospheric agents (rain, sun, etc.).

Transported air must not contain any dust or other solid impurities, sticky substances, or fibrous materials.

Do not use the unit in a hazardous or explosive environment containing spirits, gasoline, insecticides, etc.

Do not close or block the intake or extract vents in order to ensure the efficient air flow.

Do not sit on the unit and do not put objects on it.

The information in this user's manual was correct at the time of the document's preparation.

The Company reserves the right to modify the technical characteristics, design, or configuration of its products at any time in order to incorporate the latest technological developments.

Never touch the unit with wet or damp hands.

Never touch the unit when barefoot.

This unit is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the unit by a person responsible for their safety. Children should be supervised to ensure that they do not play with the unit.

Connection to the mains must be made through a disconnecting device, which is integrated into the fixed wiring system in accordance with the wiring rules for design of electrical units, and has a contact separation in all poles that allows for full disconnection under overvoltage category III conditions.

If the supply cord is damaged, it must be replaced by the manufacturer, its service agent, or similarly qualified persons in order to avoid a safety hazard.

Ensure that the unit is switched off from the supply mains before removing the guard.

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.



**THE PRODUCT MUST BE DISPOSED SEPARATELY AT THE END OF ITS SERVICE LIFE.
DO NOT DISPOSE THE UNIT AS UNSORTED DOMESTIC WASTE.**



PURPOSE

The ventilator is designed to ensure continuous mechanical air exchange in flats, cottages, hotels, cafés and other domestic and public premises. The ventilator is equipped with a regenerator that enables supply of fresh filtered air heated by means of extract air heat energy recovery.

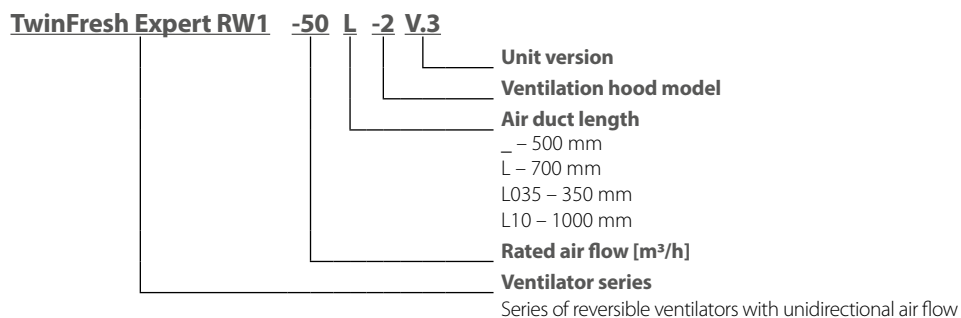
The ventilator is designed for installation on external walls.

The unit is rated for continuous operation.

DELIVERY SET

Name	Number
Indoor assembly unit of the ventilator	1 pc.
Air duct	1 pc.
Sound-absorbing material	1 pc.
Fan assembly	1 pc.
Heat exchanger assembly	1 pc.
Outer ventilation hood	1 pc.
Remote control	1 pc.
Cardboard mounting plate	1 pc.
Mounting kit	2 packages
Foam wedges	1 kit
User's manual	1 pc.
Mounting hood installation instruction	1 pc.
Packing box	1 pc.

DESIGNATION KEY



TECHNICAL DATA

The temperature in the room where the indoor unit of the ventilator is installed must be in the range from +1 °C to +40 °C with relative air humidity up to 65 % (no condensation buildup). A short-term increase in the humidity level up to 80% is permissible, while condensate may form on the surface of the unit.

If the conditions of use of the ventilator are outside the specified limits, turn off the ventilator. Provide fresh air with open windows.

The temperature of the transported air should be in the range from -20 °C to +40 °C.

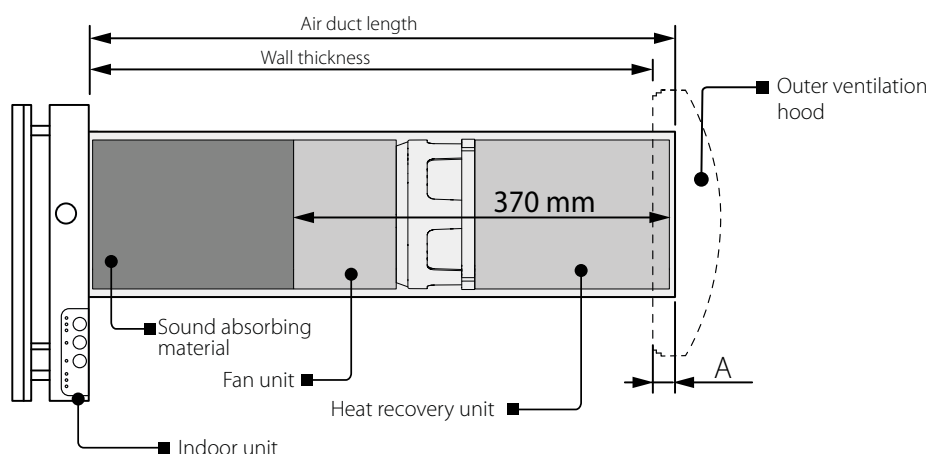
The unit is rated as a class II electric appliance.

Ingress protection rating against access to hazardous parts and water ingress is IP24.

The ventilator design is constantly being improved, thus some models may be slightly different from those described in this manual. Technical specifications of the particular model are indicated on the unit casing.

A – protruding part of the air duct on the outer wall. Depends on the selected ventilation hood type.

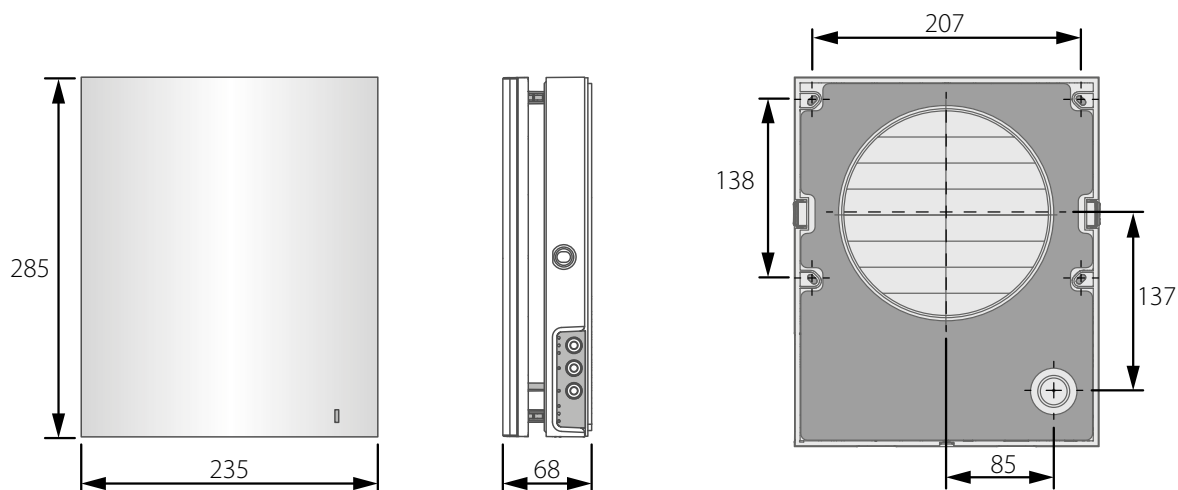
Layout of the ventilator units inside the wall



The supplied air duct length and the supplied ventilation hood model depends on the ventilator model, refer to the Designation Key section.

The overall and connecting dimensions of the outer ventilation hood, the outside protrusion length of the air duct **A** and the mounting sequence of the hood are stated in its installation instruction.

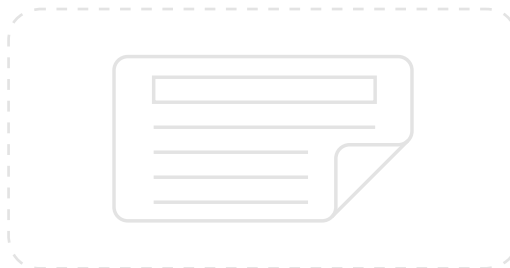
The overall dimensions of the front panel are stated below.



Wi-Fi technical data

Standard	IEEE 802.11, b/g/n
Frequency band [GHz]	2.4
Transmission power [mW] (dBm)	100(+20)
Network	DHCP
WLAN safety	WPA, WPA2

Technical specifications of the particular model are indicated on the unit casing.



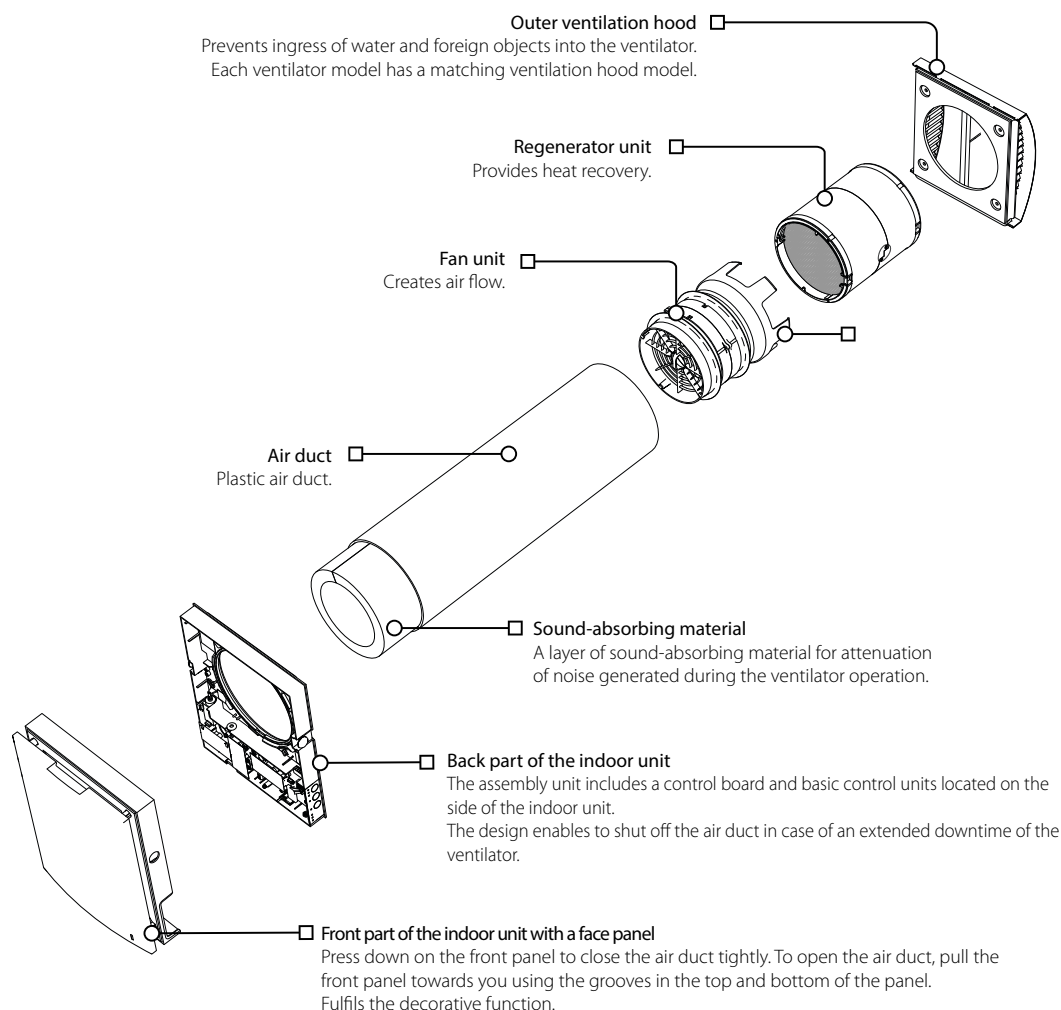
DESIGN AND OPERATING PRINCIPLE

The ventilator consists of an indoor unit with a decorative front panel, a fan unit, a regenerator unit, an air duct with a sound absorbing layer and an outer ventilation hood.

The fan and regenerator units consist of two filters that ensure rough air filtration and prevent ingress of dust and foreign objects into the regenerator and the fan.

The indoor unit is equipped with automatic shutters that close during the ventilator standstill and prevent air backdraft.

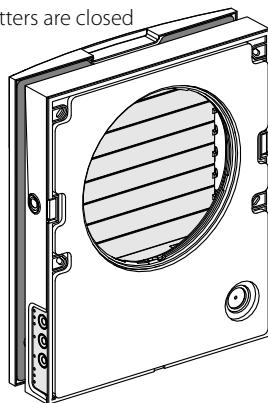
The outer ventilation hood is used to prevent direct ingress of water and other objects to the ventilator.



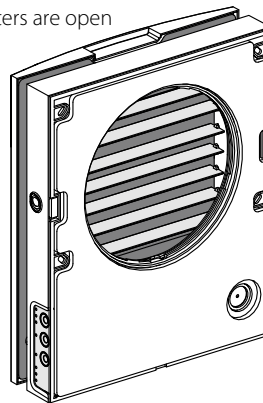
OPERATING LOGIC OF THE AUTOMATIC SHUTTERS

The indoor unit of the ventilators is equipped with automatic shutters. During the ventilator operation the automatic shutters are opened and let the air flow freely through the ventilator. The automatic shutters are closed for 2 minutes at the ventilator shut down.

The shutters are closed



The shutters are open



VENTILATOR OPERATION MODES

Ventilation: the ventilator runs either in the air exhaust or air supply mode at a set speed.

In this mode some of the ventilators in the network run in the air supply mode and the other ones in air exhaust mode, depending on the position of the DIP switch No. 3 (See section DIP switch positions).

Boost: the ventilator goes to the maximum speed without changing the operation mode.

Regeneration: the ventilator runs in two cycles, 70 seconds each, with heat and humidity regeneration.

- **Cycle I.** Warm stale air is extracted from the room and flows through the ceramic regenerator, which gradually absorbs heat and humidity. In 70 seconds, as the ceramic regenerator gets warmed, the ventilator is switched to supply mode.
- **Cycle II.** Fresh intake air from outside flows through the ceramic regenerator, absorbs accumulated moisture and is heated by the heat stored in the regenerator. In 70 seconds, as the ceramic regenerator gets cooled down, the ventilator is switched to air extraction mode and the cycle is renewed. If two ventilators are installed, they operate with opposite rotation directions in this mode. While one ventilator supplies air, the other one extracts it.

Air supply: the ventilator operates in the air supply mode irrespective of the position of the DIP switch No. 3 (see section DIP switch positions).

MOUNTING AND SET-UP

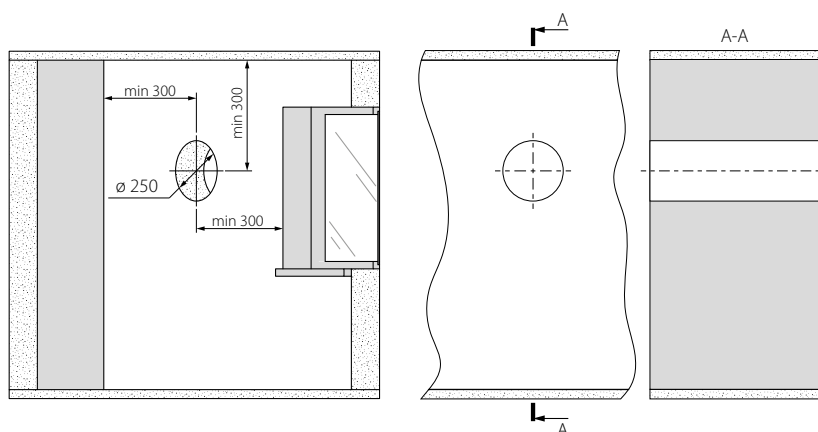


READ THE USER'S MANUAL BEFORE INSTALLING THE UNIT.

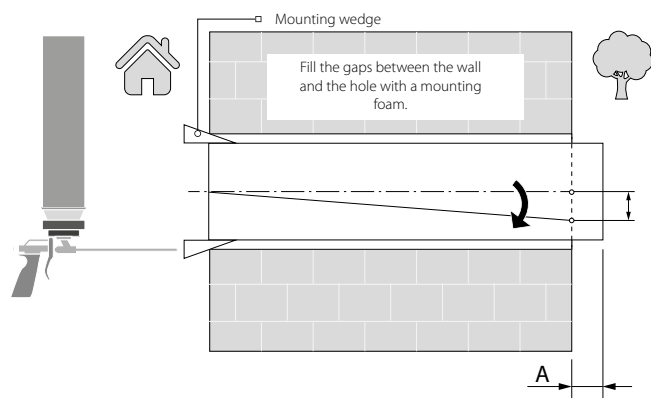


DO NOT BLOCK THE AIR DUCT OF THE INSTALLED VENTILATOR WITH DUST ACCUMULATING MATERIALS, SUCH AS CURTAINS, CLOTH SHUTTERS, ETC. AS IT PREVENTS AIR CIRCULATION IN THE ROOM.

1. Prepare a round core hole in the outer wall. The hole size is shown in the figure below.



2. Insert the air duct in the wall. For ease of installation use the foam wedges included in the delivery set. The air duct end must protrude for the distance A that enables installation of the outer ventilation hood. The distance A is stated in the installation instruction for the ventilation hood.



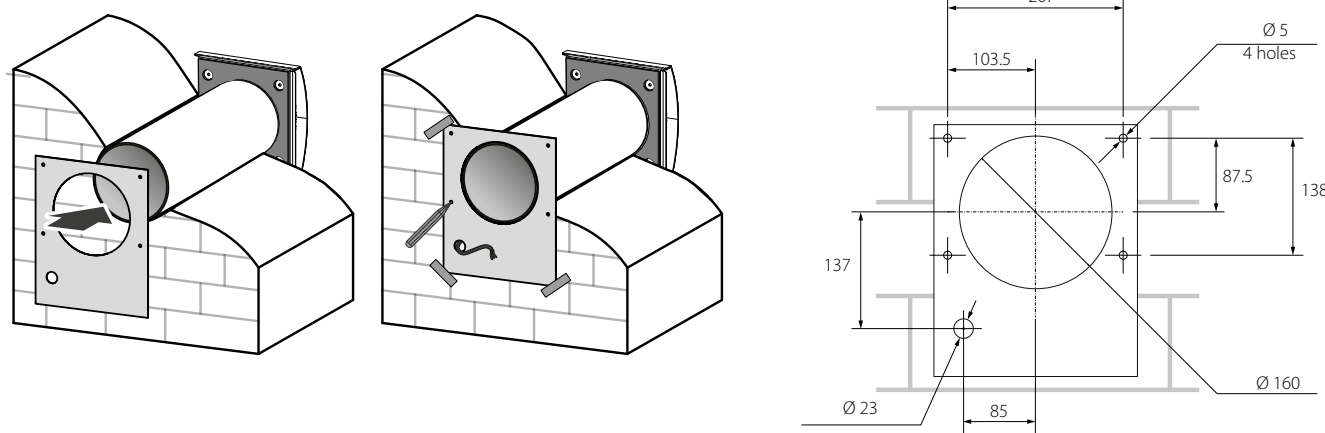
Install the air duct with the minimum slope of 3 mm downwards from the outer wall side.

The air duct can be cut by calculating preliminary the required length or after fixing the air duct on the wall (in this case, it is necessary to have access to the outside part of the wall).

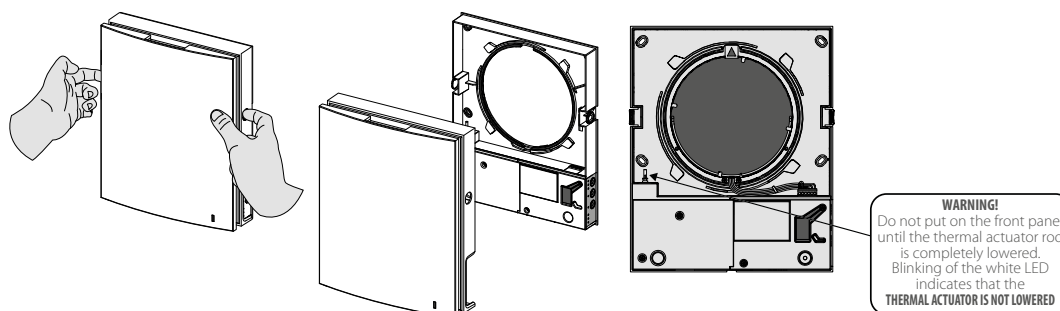
3. Install the outer ventilation hood. The mounting sequence of the outer ventilation hood is described in the installation instruction for the ventilation hood.

4. Stick the delivered cardboard master plate on the indoor wall using a mounting tape. The large opening in the master plate must be axially aligned with the air duct. For aligning the master plate with respect to the horizon line it is recommended to use a builder's level. Then mark the fastening holes for installation of the supplied dowels and drill the holes to a required depth. Route the power cable of the ventilator from the wall through the marked opening on the template.

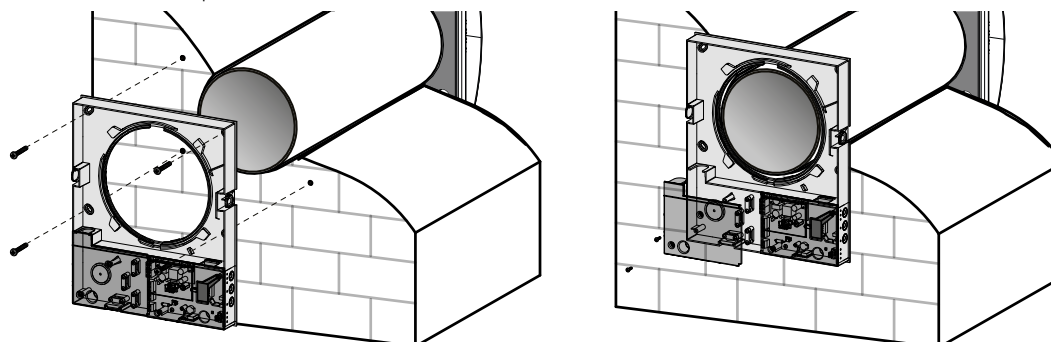
Hole marking for fan fastening



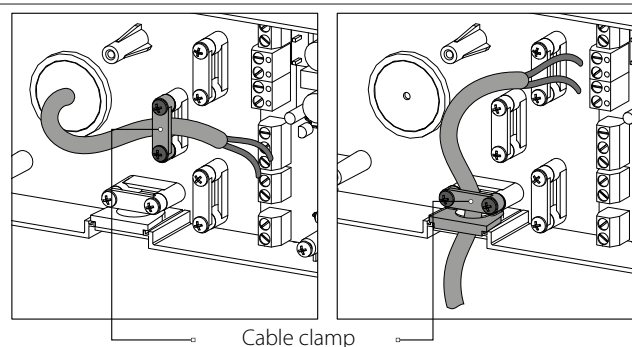
5. Unlatch and detach the front part of the indoor unit from its back part.



6. Fix the back part of the indoor unit on the wall with the screws supplied with the mounting kit of the ventilator. Remove the two retaining screws from the left transparent cover to enable access to the terminals.

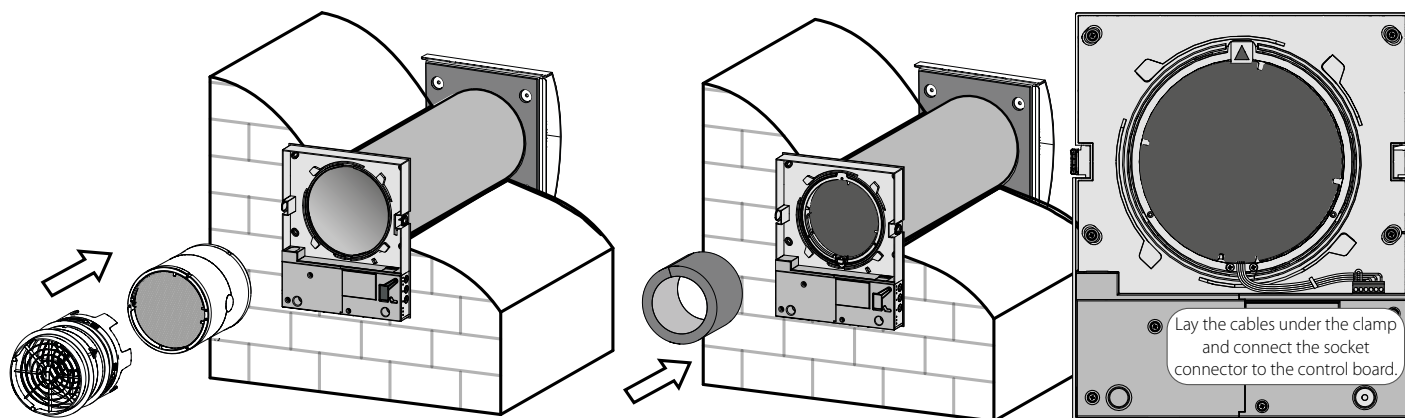


7. Route the power cable as figured below and connect the ventilator to power mains in compliance with the external wiring diagram, see section Connection to power mains. Fix the power cable and the signal cables with a cable clamp. After completion of the electrical connection re-install the transparent cover in site.



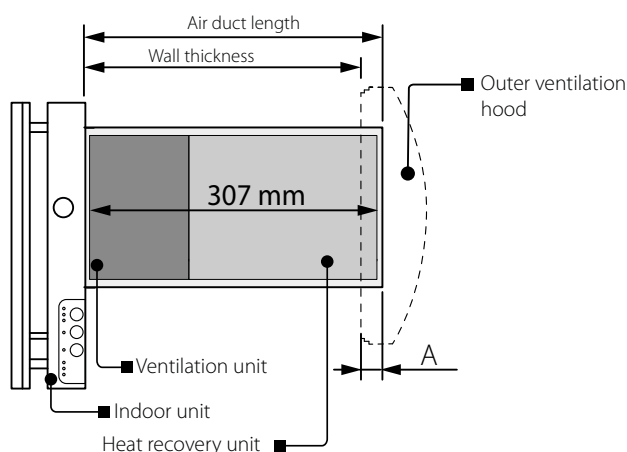
8. Install the fan unit and the regenerator unit into the air duct as figured below. Then fix the wire with the retaining clip and connect the connector to the control board.

Insert the sound-absorbing material into the air duct. Roll the layer of the sound absorbing material to match the air duct diameter. Insert the sound absorbing roll against stop. Cut off the excess part of the sound-absorbing material. Insert the ready sound absorbing roll into the air duct.



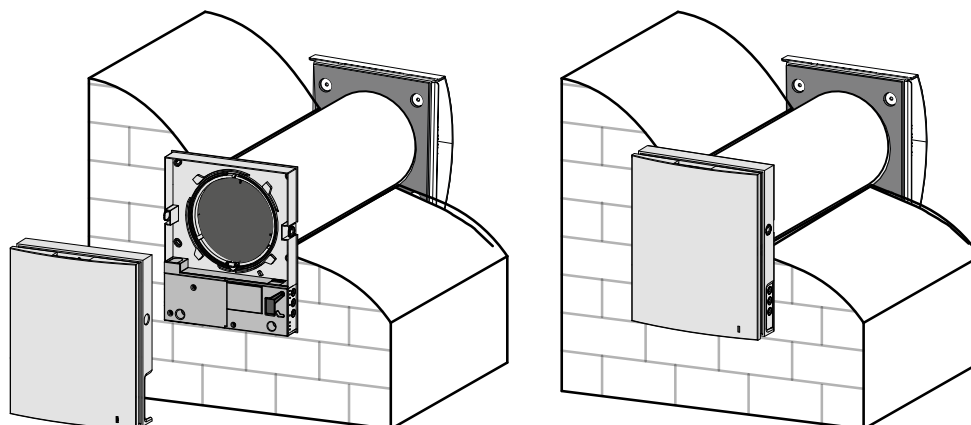
If the wall thickness is less than that in the layout of the blocks inside the wall from the Technical Data section, you can unfasten the fine filter holder and assemble the ventilator without it and without sound-absorbing material, as shown in the figure below.

Layout of the ventilator units inside the wall with a minimum wall thickness



With this type of installation, the recovery efficiency may decrease and the immission of street noise into the room may increase. This will also increase the noise level of the ventilator itself.

9. Install the front part of the indoor unit.



CONNECTION TO POWER MAINS



**POWER OFF THE POWER SUPPLY PRIOR TO ANY OPERATIONS WITH THE UNIT.
THE UNIT MUST BE CONNECTED TO POWER SUPPLY BY A QUALIFIED ELECTRICIAN.
THE RATED ELECTRICAL PARAMETERS OF THE UNIT ARE GIVEN ON THE
MANUFACTURER'S LABEL.**



**ANY TAMPERING WITH THE INTERNAL CONNECTIONS IS PROHIBITED
AND WILL VOID THE WARRANTY.**

The ventilator is rated for connection to single-phase AC 100-240 V 50/60 Hz power mains.

The routing of the power and signalling cables is shown in the "Mounting and set-up" section.

For electric installations use insulated, durable and heat-resistant conductors (cables, wires) with the minimum cross section of 0.5 up to 0.75 mm² for a power cable and 0.25 mm² for signal cables. The cable cross-section is given for reference only. The actual conductor cross-section selection must be based on its type, maximum permissible heating, insulation, length and installation method.

Use copper wires for all the electric connections!

Connect the unit to power mains via the terminal block installed in the control board in compliance with the wiring diagram and terminal designation.

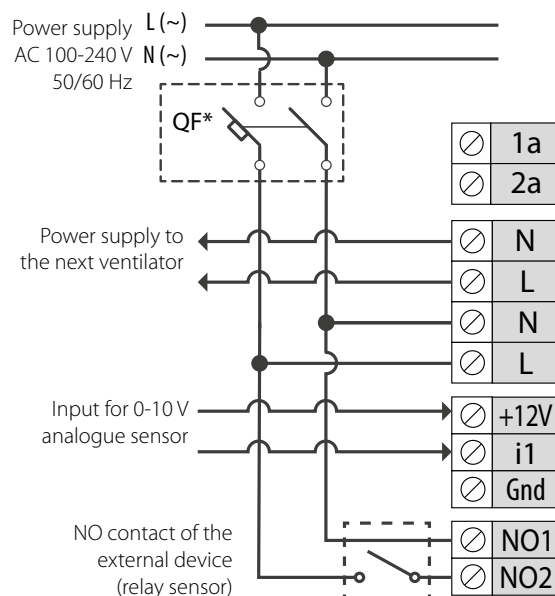
Connect the unit to power mains through the external automatic switch with a magnetic trip integrated into the fixed wiring system. The tripping current of the circuit breaker is selected based on the electrical characteristics shown on the label of the ventilator casing.

The ventilator design enables connecting any external controls with a normally opened contact (NO contact), such as an external CO₂ sensor, a humidity sensor, a switch, etc.

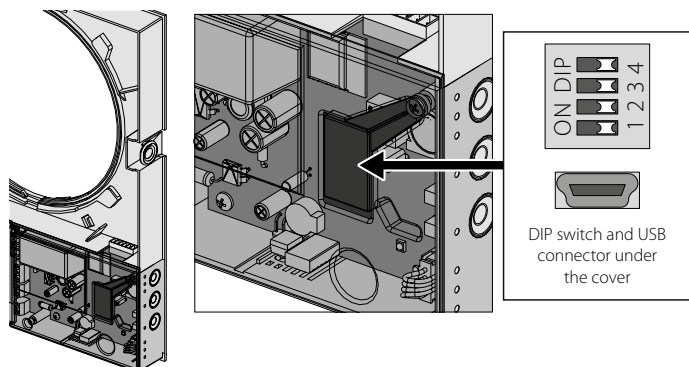
When the NO contact of the external device is closed, the unit changes to the maximum speed.

An analogue sensor with output voltage 0-10 V is also compatible with the unit.

EXTERNAL CONNECTIONS DIAGRAM



VENTILATOR SETUP











Prior to operating the ventilator set it up using the DIP switch. It is located on the controller board.

To access the DIP switch, take off the front panel of the indoor unit and uplift the rubber plug that covers the switch.

DIP SWITCH POSITIONS

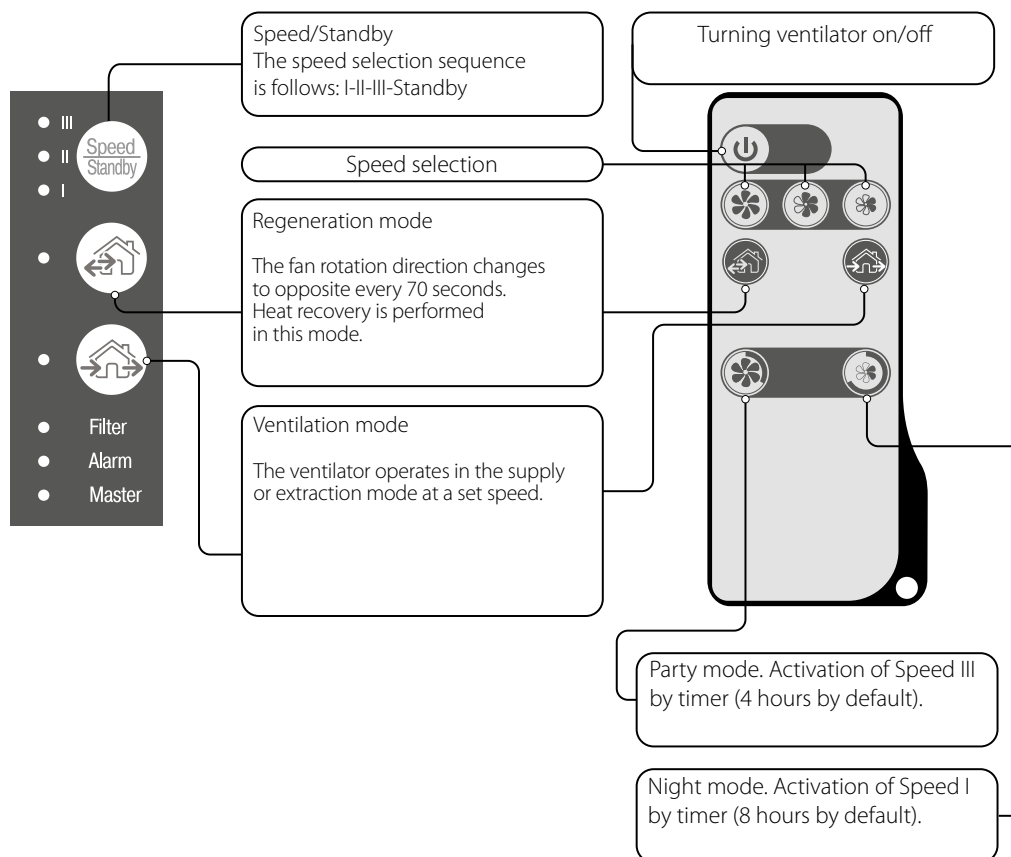
Ventilator network setup

	1	OFF – master unit (hereinafter referred to as “Master unit”)
	1	ON – slave unit (hereinafter referred to as “Slave unit”)
Standby mode setup		
	2	OFF – the ventilator is switched off in the Standby mode.
	2	ON – the ventilator operates at Speed I in the Standby mode.
Setup of air flow direction in the Ventilation mode with running ventilators		
	3	OFF – operation in the exhaust mode.
	3	ON – operation in the supply mode.
Restore factory default settings		
	4	OFF – standard operation of the unit.
	4	ON – restore factory default settings. To do this, when the ventilator is running, turn the switch to the ON position, after the sound signal, turn the switch to the OFF position.





VENTILATOR CONTROL

The ventilation unit may be operated with the following controls:








- infra-red remote control
- control buttons located on the side of the indoor unit (see the figure below)
- Vents TwinFresh V.2 application from a mobile device (smartphone or tablet)



VENTILATOR CONTROL WITH THE BUTTONS ON THE INDOOR UNIT

	<p>The speed selection sequence is follows: I-II-III-Standby. All the units integrated in a single network operate according to the speed settings of the Master unit.</p> <p>I: permanent indicator glowing indicates operation of the unit at Speed I. Indicator blinking indicates activation of the Night mode timer.</p> <p>I and II: permanent glowing of the indicators I and II indicates operation of the unit at Speed II.</p> <p>I, II and III: permanent glowing of the indicators I, II and III indicates operation of the ventilation unit at Speed III. Synchronous blinking of the indicators I, II and III indicates activation of the timer in Party mode or the turn-off delay timer in the Boost mode in case of actuation of the connected external sensors or the integrated humidity sensor.</p> <p>Alternate blinking of the indicators I, II and III indicates that the ventilator runs at the speed set with the mobile application using the slider selector for manual speed setting or that the Weekly Schedule mode is activated.</p>
	<p>Regeneration mode</p> <p>The rotation direction of both fans changes to opposite every 70 seconds. Heat recovery is performed in this mode. To enable reverse phase operation of the ventilators, change the position of the DIP switch No. 3.</p>
	<p>Ventilation mode</p> <p>The ventilator operates in the supply or extraction mode at a set speed. The fan rotation direction depends on the position of the DIP switch No. 3.</p>
<p>No glowing of the indicators "Regeneration" and "Ventilation" indicates forced operation of the ventilation unit in the air supply mode. This mode may be activated only via the mobile application.</p>	
<p>Filter</p>	<p>90 days after installation of the cartridge the filter replacement indicator starts glowing. In this case, clean or replace the filters (see section Technical maintenance).</p> <p>After replacement of the filters reset the timer using the mobile application or by pressing and holding the  button on the Master ventilator indoor unit for 5 seconds until a signal sounds.</p>
<p>Alarm</p>	<p>Alarm indicator. In case of failure, the Alarm indicator on the indoor unit glows or blinks.</p> <p>Reasons of Alarm blinking:</p> <ul style="list-style-type: none"> • Battery charge is below the low level. • No connection between the Master unit and the router. • Alarm shutdown of the ventilator. <p>If several interconnected ventilators are running in the same network, in case of shutdown of one ventilator, all of the ventilators of this network also stop. The Alarm indicator blinks on the defective ventilator and glows on the other connected ventilators.</p> <p>In case of communication loss of the Master unit with the router for longer than 20 seconds, the Master unit switches to Standby mode (Alarm indicator blinking) and the Slave units will signal that there is no communication with the Master unit (see the description of the Master indicator). After resuming communication, the Slave units are automatically synchronised with the Master unit.</p>
<p>Master</p>	<p>Permanent glowing of the indicator shows the leading unit in the network (Master unit).</p> <p>Indicator blinking indicates the driven unit (Slave unit) and no connection to the Master unit.</p> <p>No glowing of the lamp indicator means that this ventilation unit is a Slave ventilation unit and it is connected to a Master unit.</p>
<p>Synchronous blinking of all the indicators on the casing of the ventilator indicates that the Setup mode is enabled.</p>	

REMOTE CONTROL OF THE VENTILATOR

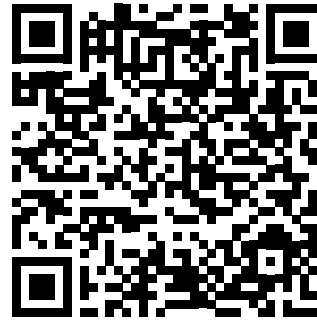
	ON/Standby. The Standby mode depends on the position of the DIP switch 2 (see section DIP switch positions). The same button is used to reset alarms (Alarm) and to turn off the timers.
	Ventilator speed selection: Speed III-II-I respectively.
	Regeneration mode The rotation direction of both fans changes to opposite every 70 seconds. Heat recovery is performed in this mode. The fan rotation direction depends on the position of the DIP switch 3.
	Ventilation mode The ventilator operates in the supply or extraction mode at a set speed. The fan rotation direction depends on the position of the DIP switch No. 3.
	Timer control buttons:  Party mode: the timer activates operation of the unit at Speed III for a set time period, 4 hours by default. The timer setting may be changed during setup of the unit on the mobile device.  Night mode: the timer activates operation of the ventilation unit at Speed I for a set time period, 8 hours by default. The timer setting may be changed during setup of the unit on mobile device. The ventilation unit reverts to operation with a previous speed setting upon elapse of the set time period. Press any speed setting key to deactivate the timer or press the timer control button once again.

VENTILATION UNIT OPERATION WITH THE MOBILE APPLICATION

To enable operation of the unit with a mobile device, install the Vents TwinFresh V.2 application to your mobile device. .

[Vents TwinFresh V.2 - App Store](#)

[Vents TwinFresh V.2 Play Market](#)



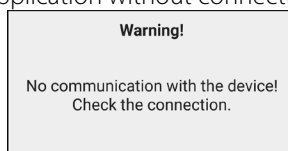
Your mobile device must have an operating system matching the following parameters:

- iOS – 8 or later. Compatible with iPhone, iPad, iPod.
- Android – 4 or later.

MOBILE APPLICATION CONNECTION TO THE VENTILATOR

Download the Vents TwinFresh V.2 application and install it on the mobile device.

Following message is displayed when launching an application without connection to the ventilator:



By default, the ventilator operates as a Wi-Fi access point. Connect the mobile device to a Wi-Fi access point (FAN: + 16 characters of the ID number) indicated on the control board of the ventilator.

Wi-Fi access point password: 11111111.


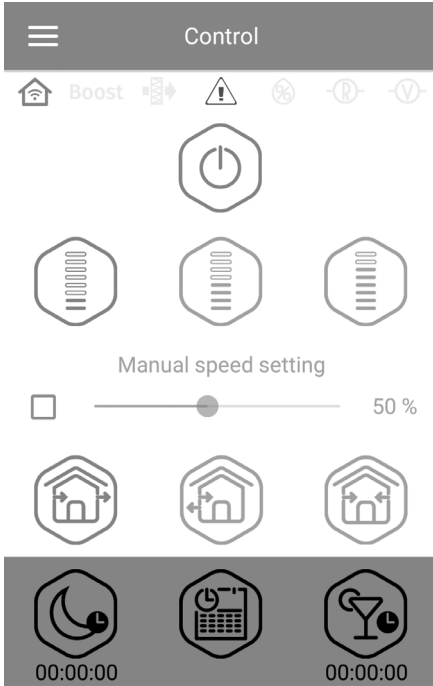






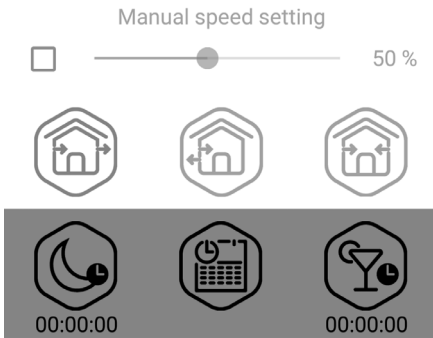







Enter the Vents TwinFresh V.2 app and create a new connection by following the steps below:







1. Enter the app menu.
2. Select **Connection - Home**.
3. If the mobile device is connected to the Wi-Fi access point of the unit without a router, select the **Default connection**.
4. In case of connection via a router, search for network settings.
5. Find the new connection in the list and highlight its ID.
6. Edit the connection details.
7. If necessary, rename the connection and enter a ventilator password.
By default the ventilator password is 1111 (automatically inserted in the input line).
WARNING!!! At this stage the password for the ventilator cannot be changed.
8. Confirm the updated details.

Once the connection has been established, go to the app menu and choose **CONTROL**.

DESCRIPTION OF MOBILE APPLICATION CONTROL BUTTONS

	ON/Standby. Standby mode depends on the position of DIP-switch # 2 (see section DIP switch positions).	
  	Selection of the preset speed: Speed I, II and III respectively.	
	Manual speed setup. To activate the scroll bar, check it.	
	Ventilation The ventilator operates in the supply or extraction mode at a set speed. The fan rotation direction depends on the position of the DIP switch No. 3.	
	Regeneration mode The rotation direction of both fans changes to opposite every 70 seconds. Heat recovery is performed in this mode.	
	Air supply mode The ventilation unit operates exclusively in the air supply mode.	
	Night mode Activation of Speed I timer without changing the ventilator operation mode (8 hours by default, adjustable in the Settings – Timers menu).	
	Weekly schedule Activation of the ventilator week-scheduled operation.	
	Party mode Activation of the Speed III timer without changing the ventilator operation mode (4 hours by default, adjustable in the Settings – Timers menu).	

DESCRIPTION OF MOBILE APPLICATION INDICATORS

	Current type of connection to the ventilator. Home connection or connection via a cloud server through Internet respectively.
boost	Speed III activation indicator. It goes on after activation of any sensor. When this mode is activated, all the other modes are deactivated. Upon elapse of the turn-off delay timer countdown (30 minutes by default) the ventilation unit reverts to the previous mode. Press Power to deactivate this operation mode.
	Humidity indicator. It glows if the indoor humidity is above the set point.
	Indicator of external relay sensor. It glows if the external relay sensor is activated.
	Indicator of the external analogue sensor 0-10 V. It indicates exceeding the setpoint on the external sensor.
	Alarm indicator. It glows in emergency case and can be of two colours: Red – lights up in case of emergency shutdown of the ventilator. Orange – lights up in case if there is no battery or the battery is low.
	Filter replacement indicator. To reset the filter timer, go to Menu->Settings->Filter .

When simultaneously activating several operation modes that exclude each other, the ventilator selects the mode according to the following priority:

1. Night mode timer or Party mode timer.
2. Standby.
3. Boost mode.
4. Weekly schedule.
5. Regular mode.

VENTILATOR PASSWORD CHANGE

To change the ventilator password in the mobile device application, go to **Menu->Connection->Home**.

1. Choose the connection and press the Settings button.
2. Enter and confirm the password.
3. Press the **Change Password** button.



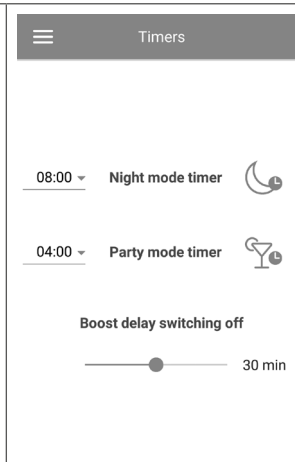
TIMER SETUP

To set the **Night mode**, **Party** mode timer and the turn-off delay timer for the **Boost** mode, go to **Menu – Settings – Timers** in the mobile application.

The **Night mode timer** sets the delay for the ventilator to switch to Speed I after the Night mode activation (8 hours by default).

The **Party timer** defines the delay for the ventilator to switch to Speed III after the Party mode activation (4 hours by default).

The **turn-off delay timer for the Boost mode** defines the delay time for operation at Speed III after the actuation of any of the sensors and their return to the standard state.



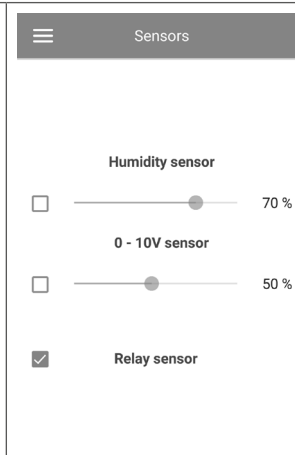
SENSOR SETUP

To set up sensor operation via the mobile app, go to **Menu -> Settings -> Sensors**.

Humidity sensor: activation of the humidity sensor. When the indoor humidity exceeds the set point, the unit switches to Speed III. When the humidity level drops below the threshold value, the Boost turn-off delay timer is activated. When the timer elapses, the ventilator reverts to the previous speed setting.

0-10 V sensor: activation of the external analogue sensor 0-10 V. When a 0-10 V control signal value exceeds the set point, the ventilation unit changes to the maximum speed. When the signal drops below the threshold value, the Boost turn-off delay timer is activated. When the timer elapses, the ventilator reverts to the previous speed setting.

Relay sensor: activation of the external relay sensor. When the no-contact of the external relay sensor is closed, the unit changes to the maximum speed. Upon the opening of the NO-contact the Boost turn-off delay timer is activated. When the timer elapses, the ventilator reverts to the previous speed setting.



DATE AND TIME SETUP

To set up the ventilator date and time, go to **Settings-> Date and time**.

Current time: set the current time.

Current date: set the current date.

Date and time

Current time

00:11:53 ▾

Current date

08.05.2017 ▾

Sync with a mobile device

WEEKLY SCHEDULE SETUP

To set up the weekly schedule in the mobile app, go to **Menu -> Settings -> Schedule**.

The weekly schedule can be set by means of 4 time intervals available for each day of the week.

You can select one of the three fan speeds or **Standby** mode for each time interval.

To get the current settings for the selected day of the week, press the **Receive** button.

To apply the selected settings for the selected day of the week, press the **Apply** button.

For weekly schedule proper operation make sure to set the correct date and time.

Schedule

<

Monday

>

Speed:

Period:

* 1 ▾

00:00 - 06:00 ▾

* 1 ▾

06:00 - 09:00 ▾

* 1 ▾

09:00 - 19:00 ▾


* 1 ▾

19:00 - 23:59

Receive

Apply

FILTER TIMER RESET

The ventilator filters must be serviced after every 90 hours of continuous operation. The need to replace the filters is signalled by the indicator  in the upper section of the CONTROL menu. Replace the filter and reset the filter timer.

To reset the filter timer via the mobile app, go to **Menu -> Settings -> Filter**. Then press the Reset filter timer button.

The 90 days are counted on the master ventilator only. The filter replacement indication is replicated on all the Slave units.

If so, replace the filters on all the ventilators on the network. Upon filter timer reset the filter replacement warning is disabled on all the connected ventilators.

The filter timer can be reset using the button located on the indoor unit (see section **Remote control of the ventilator**).

Filter

Time left to filter maintenance

Days:

Hours:

Minutes:

52

6

45

Reset the filter timer

Total operation time

Days:

Hours:

Minutes:

37

17

24

RESTORE FACTORY DEFAULT SETTINGS

To restore the factory settings via the mobile app, go to **Menu -> Settings -> Factory settings**. Then press the **Reset to factory settings** button.

WARNING!

Resetting the factory settings may result in losing Wi-Fi connection with the device.

Factory settings

Reset to factory settings

The unit operates in two modes:

Master. The unit acts as a leading unit in the network. All the Slave units and mobile devices are connected to the Master unit via Wi-Fi. The Master unit is operated by means of a mobile device, the remote control or the touch buttons on the unit casing. The control signal is automatically transferred to the connected Slave units. In this mode the unit responds to a signal from sensors, as a humidity sensor, an external digital sensor, an external analogue sensor 0-10V and changes its operation mode respectively.

Slave. The unit acts as a driven unit in the network. The Slave unit responds to a signal from the master ventilator only.

Any other signals from other controls are ignored. In this mode the units ignore any other signals from the sensors. In case of communication loss with the Master unit above 20 seconds, the unit switches to Standby mode.

Timer operation

The ventilators respond to sensor feedback only in the Master mode.

In case of actuation of any sensors, all the connected ventilators go to maximum speed.

WI-FI PARAMETER SETUP

Wi-Fi parameters are only set on Master units. To set up ventilator Wi-Fi parameters via the mobile app go to **Menu -> Connection -> Wi-Fi Setup**.

Press the **Receive** button to display the current Wi-Fi settings.

Select one of the Wi-Fi operation modes:

Access Point: access point mode without a home router.

Select the desired security level for the Access point mode:

- **Open** – open Wi-Fi network without a password.
- **WPA PSK:** password-protected. Encryption technology, using the WPA protocol, which does not guarantee complete security.
- **WPA2 PSK:** password-protected. The type of data encryption for modern network devices.
- **WPA/WPA2 PSK:** password-protected (recommended). Combined technology that activates WPA and WPA2 and at the same time provides maximum compatibility with any of your devices.

Enter your access point password and press the **Apply** button.

Client – the unit operates on the home router network.

Enter the home router details and the IP address type for the **Client** mode.

- Enter the name of the Wi-Fi home router access point.
- Enter the password for the Wi-Fi home router access point.

Select IP address type:

DHCP: the IP address is set up automatically upon connection to the home router (recommended).

Static: enables manual entry of the desired IP address, subnet mask and default gateway. These settings are recommended for expert users only. Select this IP address type at your own risk.

Then press the **Apply** button.

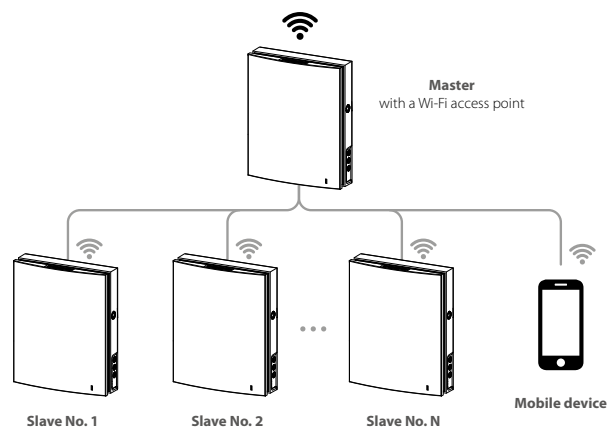
The image displays two screenshots of a mobile application's Wi-Fi setup screen. The top screenshot is for 'Access point' mode, where 'Access point' is selected under 'Wi-Fi modes'. Under 'Security modes', 'WPA/WPA2 PSK' is chosen. There is a field for 'Wi-Fi password' (8-64 characters) and a 'Wi-Fi channel' dropdown set to 11. The bottom screenshot is for 'Client' mode, where 'Client' is selected. It shows fields for 'Wi-Fi name' (1-32 characters), 'Wi-Fi password' (0-64 characters), and a 'Type of IP address' dropdown set to 'DHCP'. Both screens have 'Receive' and 'Apply' buttons at the bottom.

VENTILATOR WIRELESS CONNECTION DIAGRAMS

Wiring diagram 1

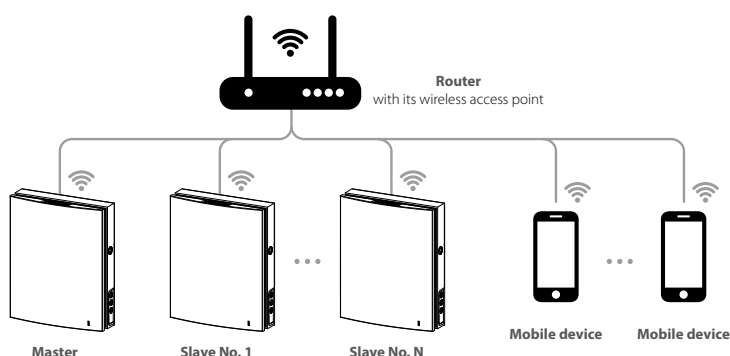
Connection of up to 8 Slave units or mobile devices to the Master unit with its own wireless access point.

In case of connection of 8 Slave units to the Master unit with its own wireless access point, a mobile device may not be connected.

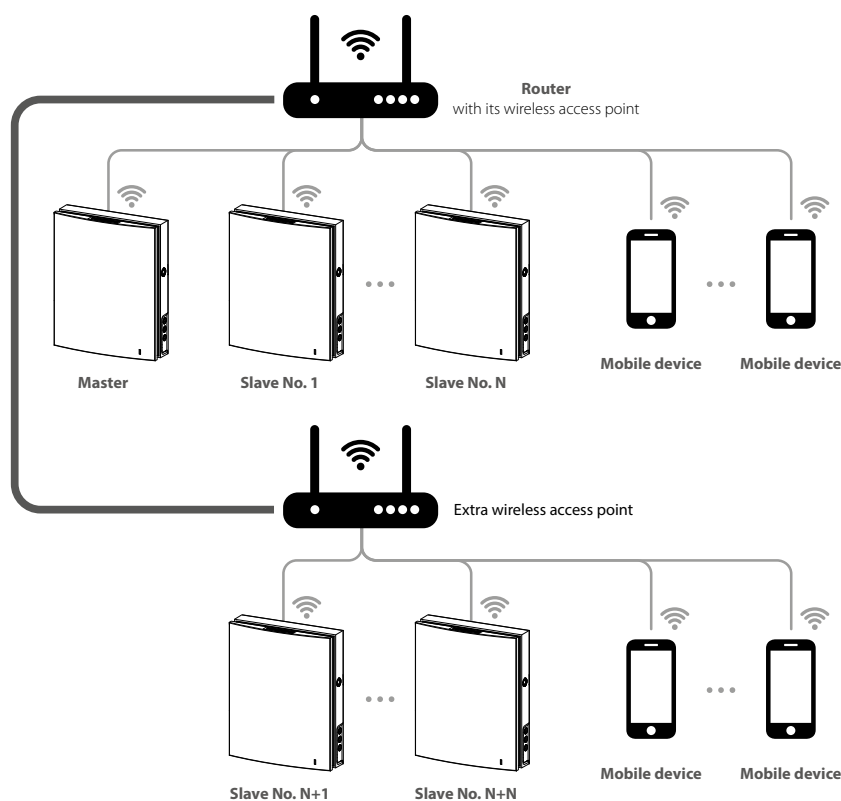
**Wiring diagram 2**

The Master units, the Slave units and the mobile devices are connected to a wireless access point of the Wi-Fi router.

In this case, the Master unit can operate with the number (N) of Slave units, limited by the technical characteristics of the router.



If the Wi-Fi router capacity is not enough to connect a required number of the units, you may use an extra wireless access point to connect the other the unit. Several Master units can optionally be connected to the network for arranging a zone control.



CONNECTING MASTER AND SLAVE VENTILATORS



WHILE COMPLETING THE CONNECTION MAKE SURE THAT THE SLAVED VENTILATORS ARE WITHIN WI-FI COVERAGE OF THE MASTER VENTILATOR

To connect a master and a slave ventilator, set the DIP switches on the units accordingly (see section **DIP switch positions**). Then set up the Wi-Fi parameters of the master ventilator (see section **Wi-Fi parameter setup**).



AFTER CHANGING THE WI-FI PARAMETERS OF THE MASTER VENTILATOR REPEAT THE CONNECTION STEPS!

Press and hold the Ventilation button on the master ventilator casing . Wait for the beep and the blinking of all the LEDs on the unit casing. Repeat the steps with all the slave ventilators and wait for the beep when all the LEDs stop blinking on each Slave unit. Set the Master unit to the standard operation mode. Press and hold the Ventilation button . Wait for the beep when all the LEDs stop blinking.

Note: if the home router works in conjunction with several Wi-Fi access points requiring connection of ventilators to different access points:

- Connect the Master unit to the first Wi-Fi access point.
- Complete the connection with the first group of Slave units.
- Connect the Master unit to the second Wi-Fi access point.
- Complete the connection with the second group of Slave units.

SPECIAL SETUP MODE

In the event of losing the Wi-Fi password or the master ventilator password or in other cases, use the special Setup mode to restore access to the ventilator functions. To enter the special Setup mode, press and hold the Ventilation button on the ventilator casing for 5 seconds until the beep and blinking of all the LED lights. The ventilator will continue in this mode for 3 minutes and then automatically revert to the previous settings. To exit the Setup mode immediately, press and hold the Ventilation button on the ventilator casing once again for 5 seconds until the beep and shutdown of all the LED lights.

In this mode the following settings are available:

- **Wi-Fi network name:** Setup mode.
- **Wi-Fi password:** 11111111.
- **The unit password is ignored.**

BATTERY REPLACEMENT

The Alarm indicator on the unit casing will blink when the battery is approaching the end of its life. The mobile app will also display the warning and show the following message on pressing the indicator icon .

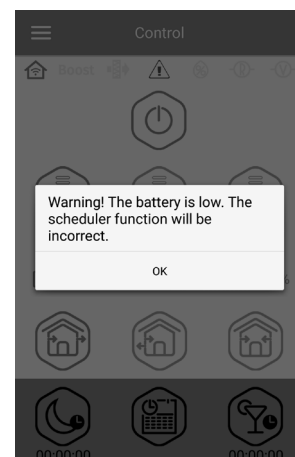
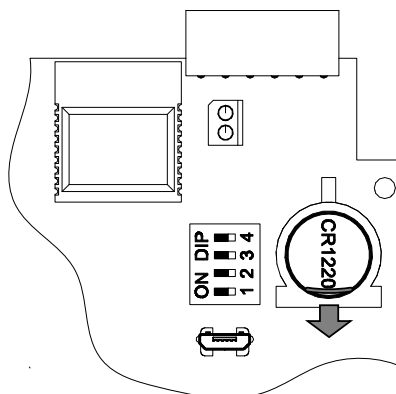
Low battery power may cause disruptions in the weekly schedule operation.

Power off the unit before replacing the battery. After replacing the battery re-set the time and date.

The battery is located on the control board.

To replace the battery, power off the ventilator, remove the front panel and the cover protecting the control board. Remove the battery and install the new one.

Battery type: CR1220.



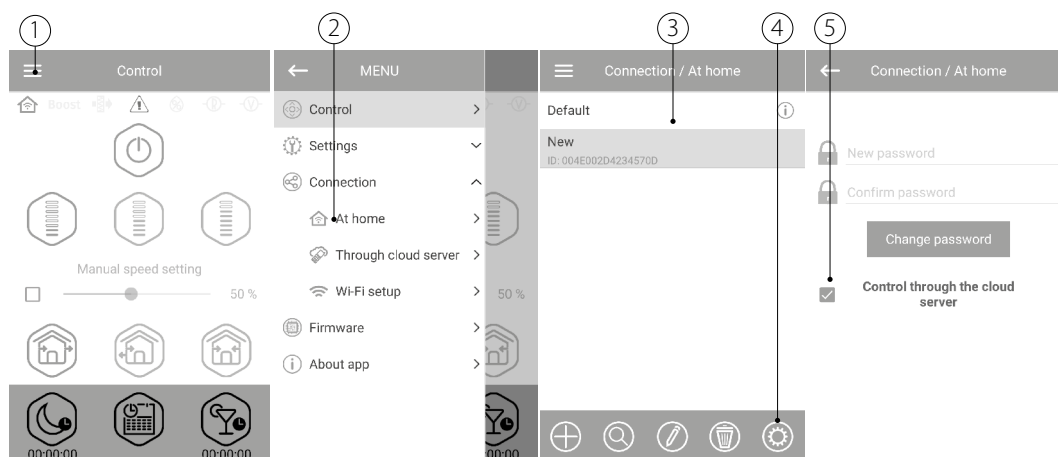
CLOUD SERVER CONNECTION

The ventilators can be controlled using the mobile app via a cloud server connection. This functions enables control of a single or multiple ventilators connected according to Diagram 2 over any distance using the mobile app connected to the Internet.

By default, the function of control via cloud server is disabled.

To enable the function:

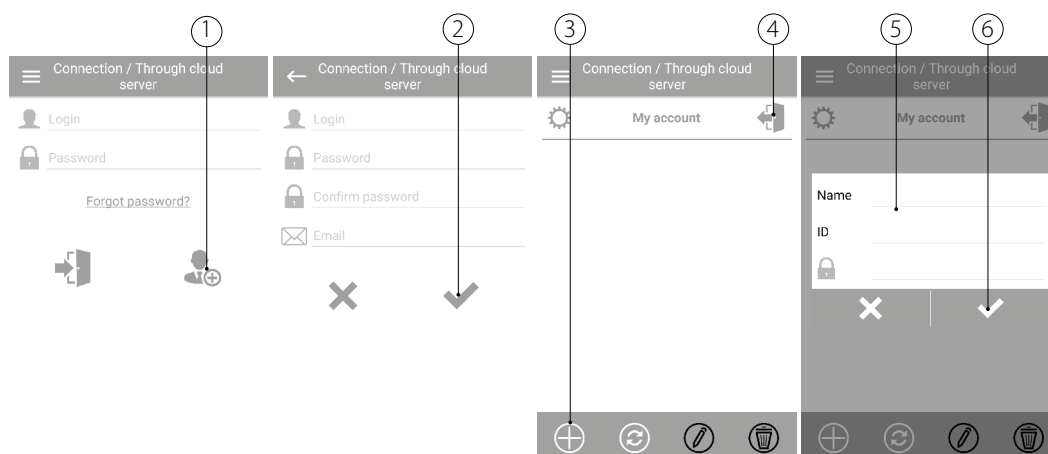
1. Enter the app menu.
2. Select **Connection - Home**.
3. Select the desired ventilator connection.
4. Enter the connection settings menu.
5. Enable **Control via cloud server**.



Note: with this function enabled any loss of Internet connection provided by the home server may result in temporary loss of communication with the ventilator. To manage the master ventilator, create a new account.

Open the mobile app and go to **Menu -> Connection -> Via cloud server**:

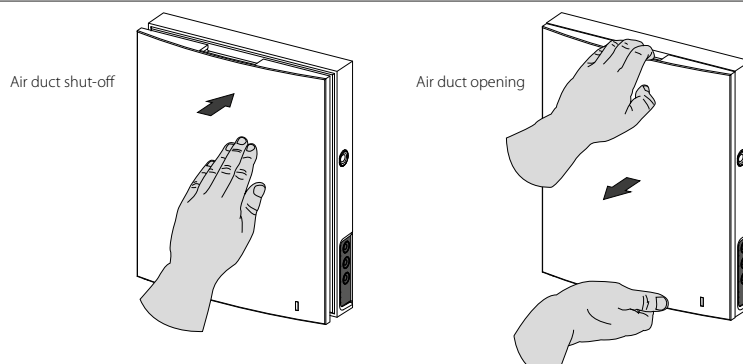
1. Press the **Add new account** button.
2. Enter a login, a password and an e-mail address for password recovery. Then press the APPLY button.
3. The app will log into the newly created account automatically. Add a new master ventilator.
4. To exit the account, press the respective button (if necessary).
5. Enter a ventilator name of choice, the ventilator ID as stated on the control board and the unit password (1111 by default).
6. Confirm the updated details.



To log into the account via the mobile app, go to **Menu -> Connection -> Via cloud server**. Then enter the login and password and press the LOG IN button.

AIR FLOW CUT-OFF

Press the front panel to close the air duct. The fan turns off automatically. The unit functionality is not changed. To open the air duct, pull the front panel while holding the special recesses. The fan starts operating according to the actual speed setting.



The front panel incorporates an operating LED indicator. During the dark time the indicator light intensity drops down.

TECHNICAL MAINTENANCE

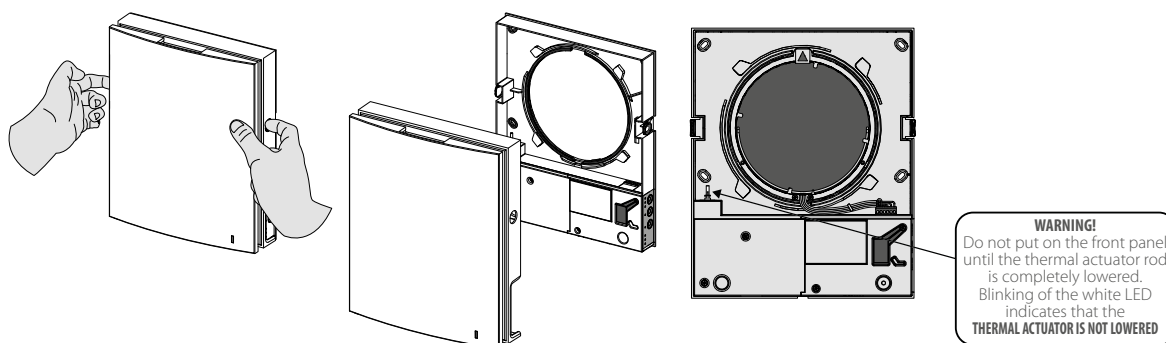


DISCONNECT THE UNIT FROM POWER SUPPLY BEFORE ANY MAINTENANCE OPERATIONS!
MAKE SURE THE UNIT IS DISCONNECTED FROM POWER MAINS BEFORE REMOVING THE PROTECTION

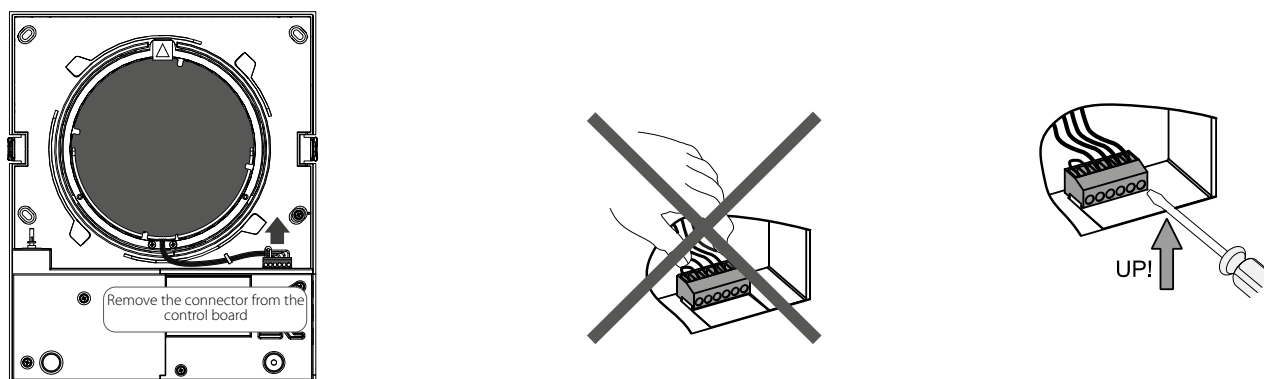
Make sure the unit is disconnected from power mains before removing the protection. Maintenance of the ventilator means regular cleaning of the ventilator surfaces of dust and cleaning and replacement of the filters. To access the basic assembly units follow the steps: Turn off the ventilator using the remote control or the buttons on the indoor unit. Then turn the power completely off.

1. Press the latches on the side of the indoor control unit to take off the front part.

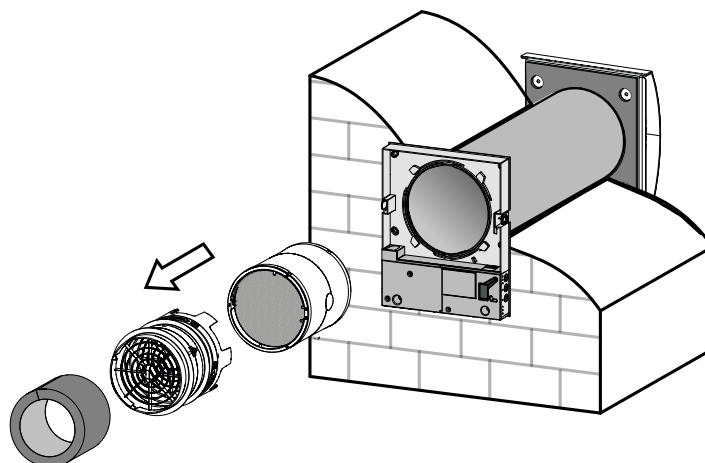
Please make sure the thermal actuator rod is in lower position during re-installation of the front panel. If the thermal actuator rod is up, please wait for about 2 minutes until it goes down.



2. Disconnect the connector from the control board. While removing the connector do not pull the cable. Uplift it with a flat screw driver of a respective size.

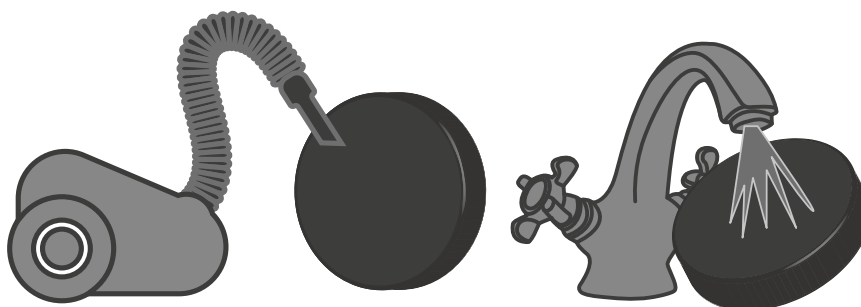


3. Remove the sound-absorbing material, fan unit, and the regenerator unit from the air duct.



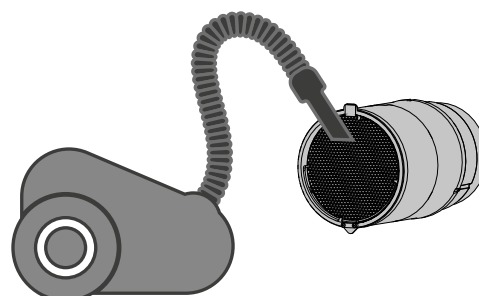
Clean the filters as often as required, but at least 3 times a year.

- Upon elapse of the set time period (factory setting 90 days) the filter replacement indicator (Filter) starts glowing. The filter timer is reset using the program on the mobile device.
- Wash the filters and let those dry out completely. Install the dry filters in their place and assemble the unit in the reverse order.
- Vacuum cleaning is allowed.
- The filter rated service life is 3 years.



Some dust may accumulate on the heat exchanger block even in case of regular maintenance of the filters.

- Clean the regenerator regularly to ensure its high heat recovery efficiency.
- Vacuum clean the regenerator not less than once a year.



4. Replacement of the remote control battery (if necessary).

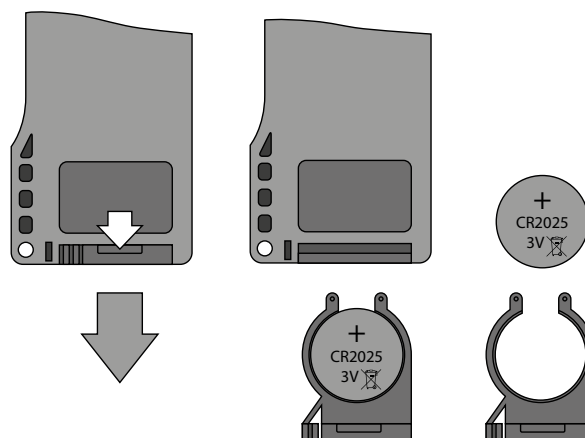
In case of a long operation of the remote control, the battery must be replaced.

No response of the unit for pressing the remote control buttons indicates the need to replace the battery.

The battery type is CR2025.

Remove the holder with the battery from the lower part of the remote control.

Replace the battery and install the holder with a new battery back to the remote control.



POSSIBLE REASONS AND TROUBLESHOOTING

Problem	Possible reasons	Troubleshooting
When switching on the ventilator, the fan does not start.	No power supply.	Make sure the power supply line is connected correctly, otherwise troubleshoot a connection error.
	The motor is jammed, the impeller blades are soiled.	Turn the ventilator off. Troubleshoot the motor jam and impeller clogging. Clean the blades. Turn the ventilator on.
Circuit breaker tripping during the ventilation unit start-up.	Overcurrent as a result of short circuit in the electric line.	Turn the ventilator off. Contact the Seller for further information.
Low air flow.	Low set fan speed.	Set higher speed.
	The filters, the fan or the regenerator are clogged.	Clean or replace the filter. Clean the fan and the heat exchanger.
Noise, vibration.	The impeller is clogged.	Clean the impeller.
	Loose screw connection of the unit casing or the outer ventilation hood.	Tighten the screws of the ventilator or the outer ventilation hood.

STORAGE AND TRANSPORTATION REGULATIONS

- Store the unit in the manufacturer's original packaging box in a dry closed ventilated premise with temperature range from +5 °C to + 40 °C and relative humidity up to 70 %.
- Storage environment must not contain aggressive vapors and chemical mixtures provoking corrosion, insulation, and sealing deformation.
- Use suitable hoist machinery for handling and storage operations to prevent possible damage to the unit.
- Follow the handling requirements applicable for the particular type of cargo.
- The unit can be carried in the original packaging by any mode of transport provided proper protection against precipitation and mechanical damage. The unit must be transported only in the working position.
- Avoid sharp blows, scratches, or rough handling during loading and unloading.
- Prior to the initial power-up after transportation at low temperatures, allow the unit to warm up at operating temperature for at least 3-4 hours.

MANUFACTURER'S WARRANTY

The product is in compliance with EU norms and standards on low voltage guidelines and electromagnetic compatibility. We hereby declare that the product complies with the provisions of Electromagnetic Compatibility (EMC) Directive 2014/30/EU of the European Parliament and of the Council, Low Voltage Directive (LVD) 2014/35/EU of the European Parliament and of the Council and CE-marking Council Directive 93/68/EEC. This certificate is issued following test carried out on samples of the product referred to above.

The manufacturer hereby warrants normal operation of the unit for 24 months after the retail sale date provided the user's observance of the transportation, storage, installation, and operation regulations. Should any malfunctions occur in the course of the unit operation through the Manufacturer's fault during the guaranteed period of operation, the user is entitled to get all the faults eliminated by the manufacturer by means of warranty repair at the factory free of charge. The warranty repair includes work specific to elimination of faults in the unit operation to ensure its intended use by the user within the guaranteed period of operation. The faults are eliminated by means of replacement or repair of the unit components or a specific part of such unit component.

The warranty repair does not include:

- routine technical maintenance
- unit installation/dismantling
- unit setup

To benefit from warranty repair, the user must provide the unit, the user's manual with the purchase date stamp, and the payment paperwork certifying the purchase. The unit model must comply with the one stated in the user's manual. Contact the Seller for warranty service.

The manufacturer's warranty does not apply to the following cases:

- User's failure to submit the unit with the entire delivery package as stated in the user's manual including submission with missing component parts previously dismantled by the user.
- Mismatch of the unit model and the brand name with the information stated on the unit packaging and in the user's manual.
- User's failure to ensure timely technical maintenance of the unit.
- External damage to the unit casing (excluding external modifications as required for installation) and internal components caused by the user.
- Redesign or engineering changes to the unit.
- Replacement and use of any assemblies, parts and components not approved by the manufacturer.
- Unit misuse.
- Violation of the unit installation regulations by the user.
- Violation of the unit control regulations by the user.
- Unit connection to power mains with a voltage different from the one stated in the user's manual.
- Unit breakdown due to voltage surges in power mains.
- Discretionary repair of the unit by the user.
- Unit repair by any persons without the manufacturer's authorization.
- Expiration of the unit warranty period.
- Violation of the unit transportation regulations by the user.
- Violation of the unit storage regulations by the user.
- Wrongful actions against the unit committed by third parties.
- Unit breakdown due to circumstances of insuperable force (fire, flood, earthquake, war, hostilities of any kind, blockades).
- Missing seals if provided by the user's manual.
- Failure to submit the user's manual with the unit purchase date stamp.
- Missing payment paperwork certifying the unit purchase.



FOLLOWING THE REGULATIONS STIPULATED HEREIN WILL ENSURE A LONG AND TROUBLE-FREE OPERATION OF THE UNIT.



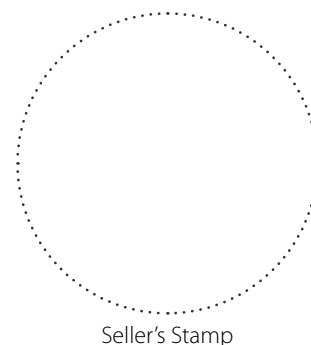
USER'S WARRANTY CLAIMS SHALL BE SUBJECT TO REVIEW ONLY UPON PRESENTATION OF THE UNIT, THE PAYMENT DOCUMENT AND THE USER'S MANUAL WITH THE PURCHASE DATE STAMP.

CERTIFICATE OF ACCEPTANCE

Unit Type	Single-room reversible energy recovery ventilator
Model	
Serial Number	
Manufacture Date	
Quality Inspector's Stamp	

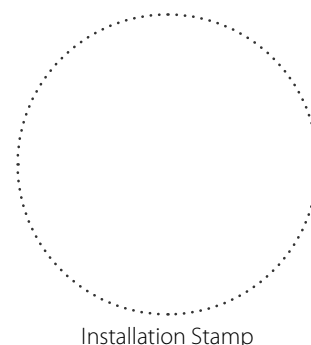
SELLER INFORMATION

Seller	
Address	
Phone Number	
E-mail	
Purchase Date	
This is to certify acceptance of the complete unit delivery with the user's manual. The warranty terms are acknowledged and accepted.	
Customer's Signature	



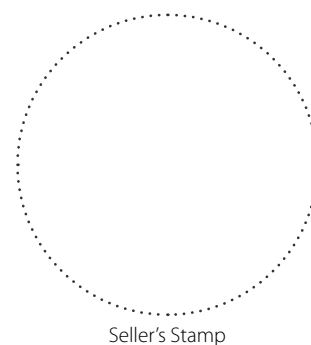
INSTALLATION CERTIFICATE

The unit _____ is installed pursuant to the requirements stated in the present user's manual.	
Company name	
Address	
Phone Number	
Installation Technician's Full Name	
Installation Date:	Signature:
The unit has been installed in accordance with the provisions of all the applicable local and national construction, electrical and technical codes and standards. The unit operates normally as intended by the manufacturer.	
Signature:	



WARRANTY CARD

Unit Type	Single-room reversible energy recovery ventilator
Model	
Serial Number	
Manufacture Date	
Purchase Date	
Warranty Period	
Seller	



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