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2021-08

Roomie Dual



ART. NR.:
115999

EN Assembly and Operation Instructions

Heat recovery single-room reversible ventilation unit

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SAFETY REQUIREMENTS

- Read the user's manual carefully prior to installing and operating the unit.
- 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.
- The warnings contained in the user's manual must be considered most seriously since they contain vital personal safety information.
- Failure to follow the rules and safety precautions noted in this user's manual may result in an injury or unit damage.
- After a careful reading of the manual, keep it for the entire service life of the unit.
- While transferring the unit the User's manual must be turned over to the receiving operator.
- 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 device 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.
- The connection to the supply mains must be made through a means of disconnection, which is incorporated in the fixed wiring in accordance with the local wiring rules.
- Precautions must be taken to avoid the back-flow of gases into the room from the open fire of gas or other fuel-burning appliances.

WARNING! Similar to the use of any other household electrical appliances when operating this fan, the following basic rules must be followed:

- Never touch the unit with wet or damp hands.
- 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.

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 Roomie Dual Wifi 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.



CAUTION! When a text bears this symbol, it means that personal injury or serious damage to the equipment may result if the instructions are not followed.



NB! When a text bears this symbol, damage to equipment or poor efficiency may be the consequence of not following the instructions.



The right to give notice of lack of conformity applies to this product in accordance with the existing terms of sale, provided that the product is used correctly and maintained. Filters are consumables.

The symbol on the product shows that this product must not be treated as household waste. It must be taken to a collection point for recycling electrical and electronic equipment.

By ensuring correct disposal of the equipment, you will contribute to preventing negative consequences for the environment and health that incorrect handling may entail. For further information on recycling of this product, please contact your local authority, your refuse collection company or the company from which you purchased it.

Notice of lack of conformity as a result of incorrect or defective installation must be submitted to the installation company responsible. The right to give notice of lack of conformity may lapse if the system is used incorrectly or maintenance is grossly neglected.

This appliance 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 appliance by a person responsible for their safety. Children should be supervised to ensure that they do not play with the appliance.

The product is not suitable for use by children. Children must not be allowed to play with the appliance. Children must not carry out cleaning or maintenance without supervision.

Our products are subject to continuous development and we therefore reserve the right to make changes.

We also disclaim liability for any printing errors that may occur.

1. Purpose

The ventilator is designed to ensure continuous mechanical air exchange for single rooms in houses, apartments and commercial buildings.

The unit is intended for indoor use.

The unit is equipped with a ceramic regenerator that enables supply of fresh filtered air heated by means of extract air heat energy regeneration.

The unit is designed for through-the-wall-mounting.



The choice of unit installation location must prevent unauthorized access by unattended children.

The unit is rated for continuous operation.

Transported air must not contain any flammable or explosive mixtures, evaporation of chemicals, sticky substances, fibrous materials, coarse dust, soot and oil particles or environments favourable for the formation of hazardous substances (toxic substances, dust, pathogenic germs).

3. Technical data

The temperature in the room where the indoor unit of the unit is installed must be in the range from +1 °C to +40 °C with relative humidity up to 65% (no condensation buildup). If the conditions for using the ventilator are beyond the specified limits, turn off the ventilator. Provide fresh air supply through windows. The temperature of the transported air should be in the range from -15 °C to +40 °C.

The unit is rated as a class II electric appliance.

Roomie Dual			
Speed	I	II	III
Airflow heat recovery mode (m ³ /h)	10	20	30
Airflow ventilation mode (m ³ /h)	10	20	30
Airflow exhaust mode (m ³ /h)	20	40	60
Sound pressure Lp(A) 3m dB	20	32	39
Sound power Lw(A) dB	37	49	56
Power consumption (W)	2,9	4,6	6,8
Current (A)	0,031	0,048	0,096
Fan speed (o/min.)	1030	1760	2690
Sound absorption D _{n,e,w} (C;Ctr)	35 (-1;-4)		
Voltage (V/50-60Hz)	100-240V		
Filter class	G3		
Ingress protection	IP 24		
Operating temperature*	-15°C to +40°C		
Wall thickness	280-500 mm		



Turn off the unit if the air temperature is outside the temperature range stated in the technical data.

2. Delivery set

Name	Number
Indoor unit of the ventilator	1 item
Air duct	1 item
Air flow separator	3 items
Assembled cartridge	1 item
Outer ventilation hood	1 item
Remote control	1 item
Cardboard template	1 item
Fastening set	2 packs
User's manual	1 item
Packing box	1 item

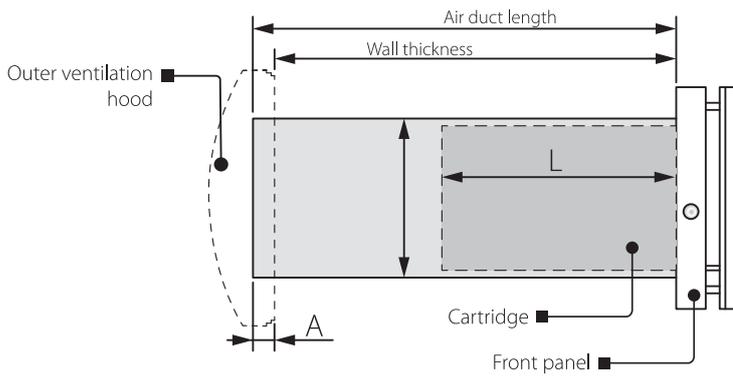
The unit design is regularly improved, so some models may slightly differ from those ones described in this manual.

*Variations in temperature and humidity may lead to freezing at higher temperatures than specified.

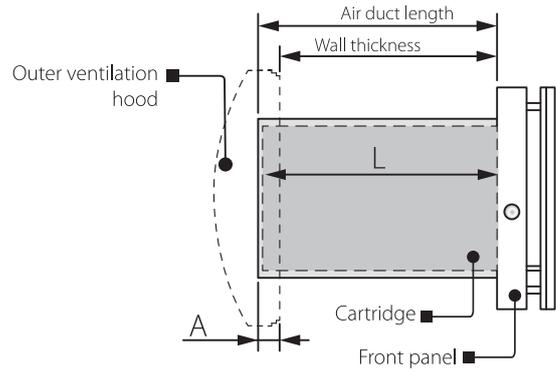
In the event of possible freezing, take the cartridge out with the regenerator and fan. Let it thaw at room temperature. Wait to start the unit if the temperature and humidity conditions are unchanged. Alternatively, choose ventilation mode which reduces indoor humidity and the risk of freezing. The air is then continuously ventilated in one direction.

For Roomie Dual; activating the built-in humidity sensor will activate both fans in exhaust mode at maximum speed until the humidity level is reduced to below set point.

Wall thickness is above the minimum



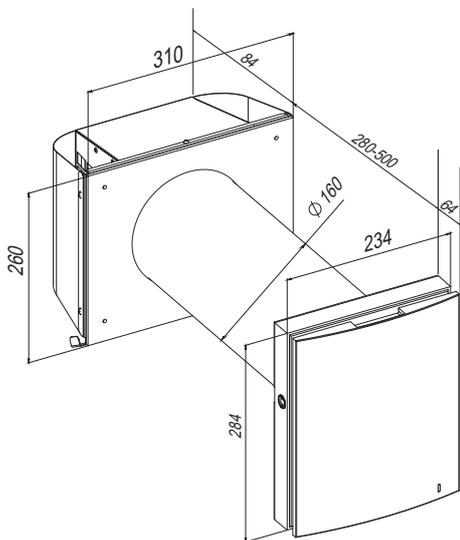
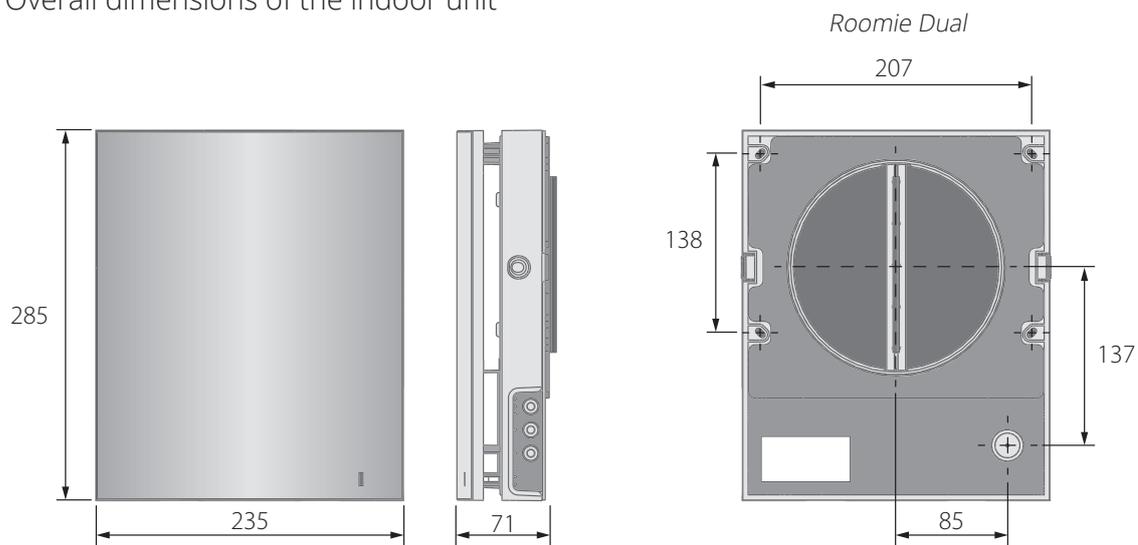
Wall thickness is minimal



Air duct length	
Roomie Dual	280-500

Standard duct is 500 mm which can be cut to min 280 mm

Overall dimensions of the indoor unit



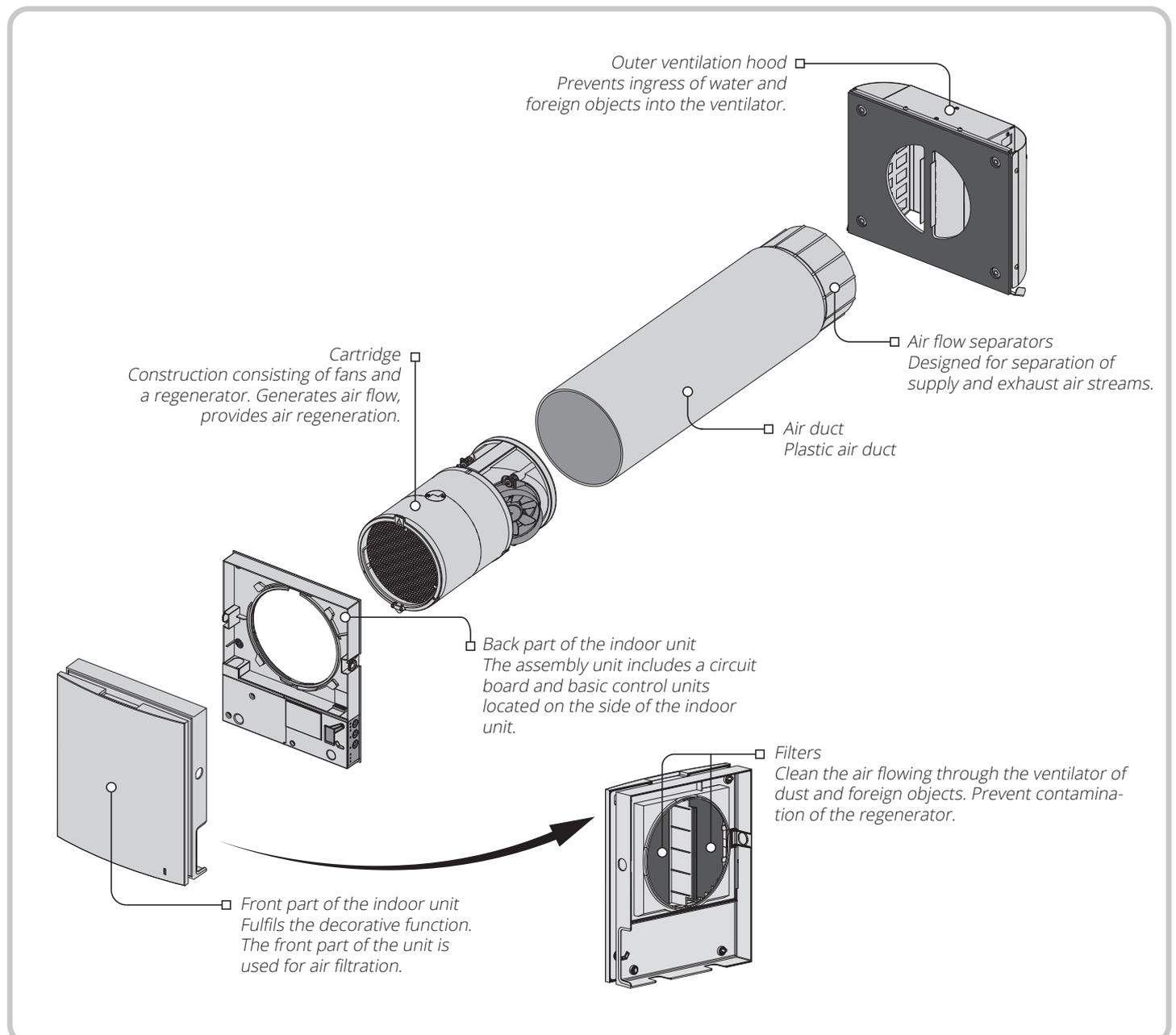
4. Product description

Roomie Dual

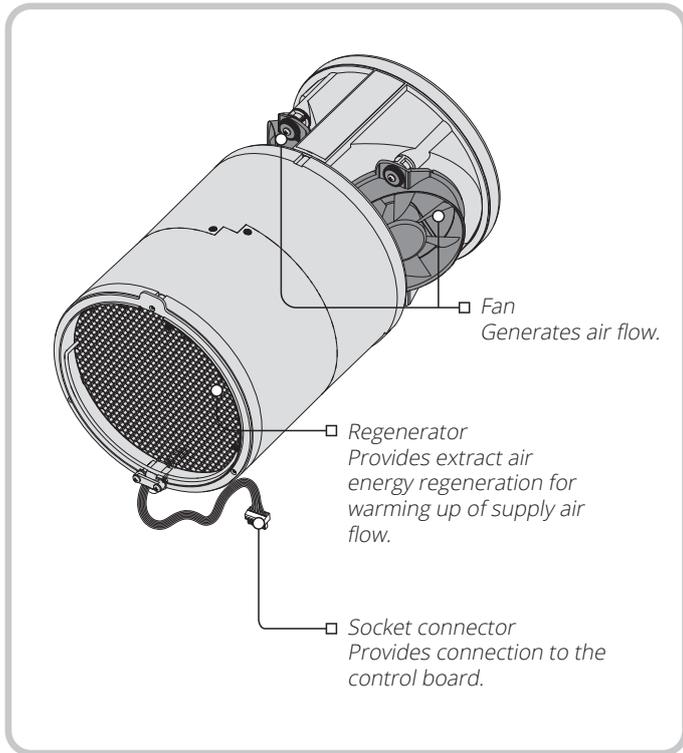
The ventilator consists of an indoor unit with a decorative front panel and filters, a cartridge, an air duct with air flow separators and an outer ventilation hood. The filters ensure rough air filtration and prevent ingress of dust and foreign objects into the cartridge. The cartridge is a basic functioning part of the ventilator. It consists of two fans and a regenerator.

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

Unit design



Cartridge design



The cartridge is a solid block and cannot be dismantled. The Roomie Dual unit has a cartridge with filters that can be easily removed for maintenance purposes. The socket connector routed from the cartridge is connected to the control board in the back part of the indoor unit.

Unit operation modes

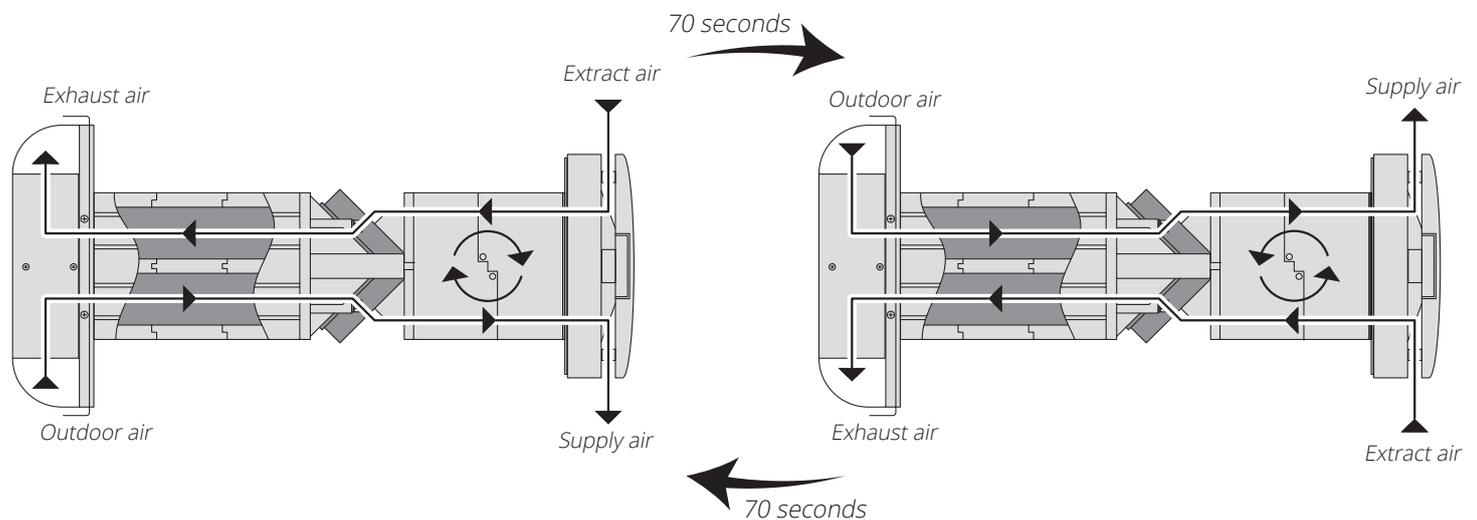
The ventilator has three operation modes:

Regeneration. One of the fans of the ventilator operates in extract mode and the other one in supply mode. The fans change their rotation direction every 70 seconds.

Ventilation. One fan operates in the air extract mode and the other fan operates in the air supply mode at set speed. The fans do not change their rotation direction.

Air extract. Both fans operate in air extract mode at set speed.

In case of a sensor activation the ventilation unit follows one of two functioning algorithms to be set during setup of the ventilation unit via the DIP switch. For details, see page 83.



5. Mounting and set-up



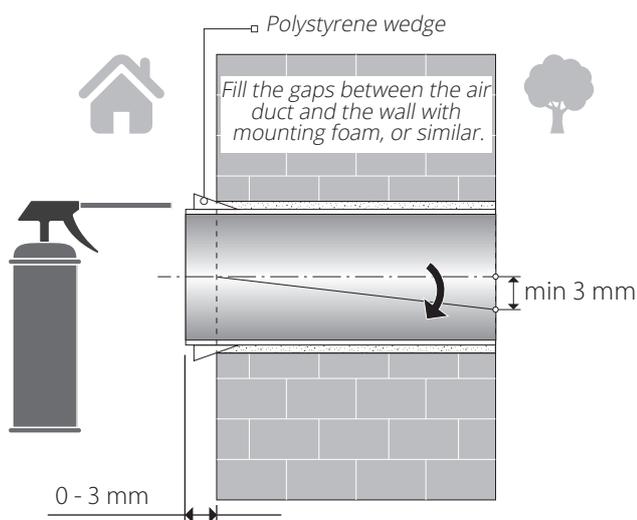
Read the user's manual prior to mounting the unit.



Do not block the air duct of the installed unit 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. Recommended hole dimension is $\text{Ø}180$ mm. While preparing a core hole it is recommended to make preparations for layout of the power cable and other required cables.

2. Insert the air duct in the wall. For ease of installation use the polystyrene wedges included in the delivery. The air duct end must protrude for the distance that enables installation of the outer ventilation hood.



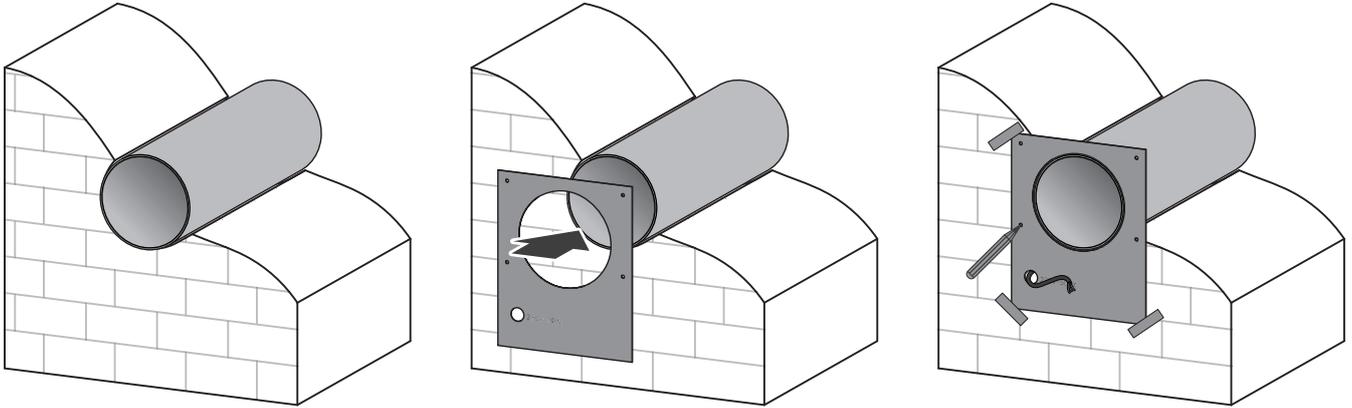
Insert the air duct into the wall as shown in the picture on the left. Install the air duct with the minimum slope of 3 mm outward. On the outer wall side the air duct end must be flush with the wall.

Adjustment of the air duct length is possible before and after its fixation in the wall. In the first case calculate the required length before mounting and in the second case be sure to have enough access to cut the air duct length after its installation.

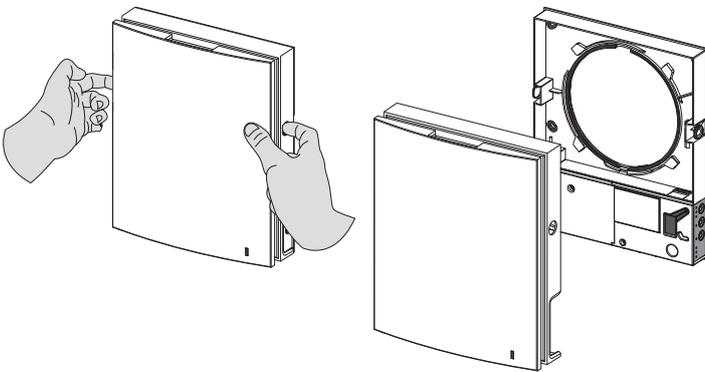
Make sure that moisture cannot permeate into the opening in the external wall. Use a suitable sealant.

3. 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 of the master plate with respect to the horizon line it is recommended to use a builder's level.

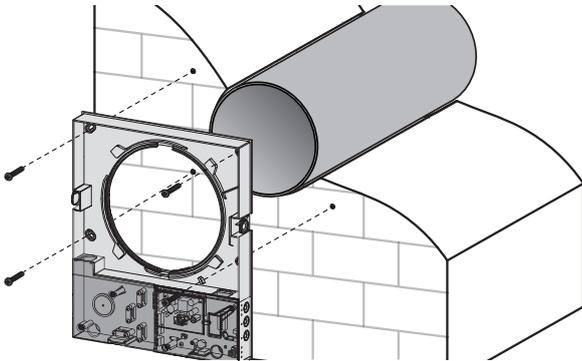
Then mark the fastening holes for installation of the supplied dowels and drill the holes to a required depth. Route the power cable from the ventilator outside through the specially marked opening on the master plate.



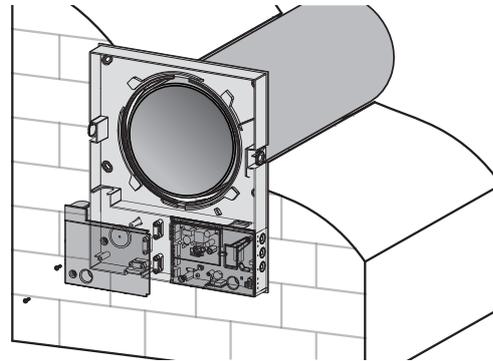
4. Press the side latches to detach the front part of the indoor unit from its back part.



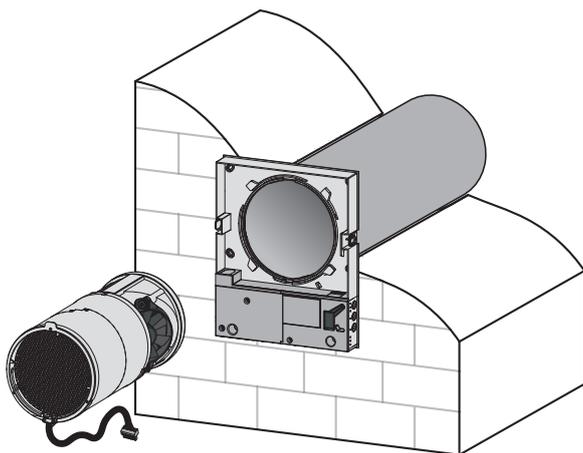
5. Fix the back part of the indoor unit on the wall with the screws supplied with the mounting kit of the



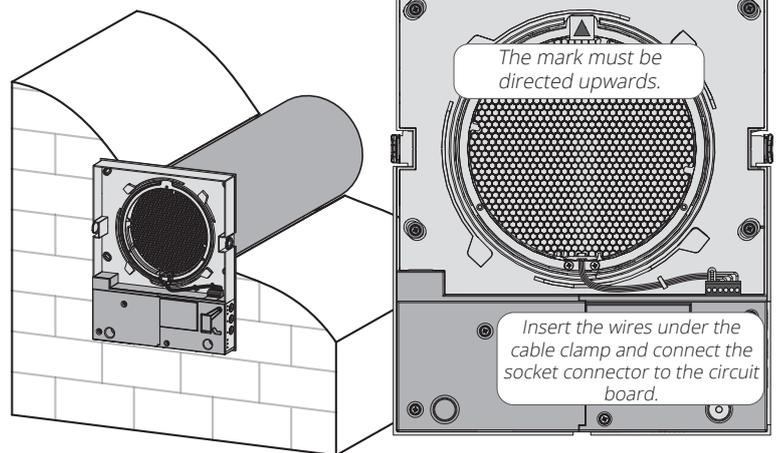
ventilator. Remove the two retaining screws from the left transparent cover to enable access to the terminals.



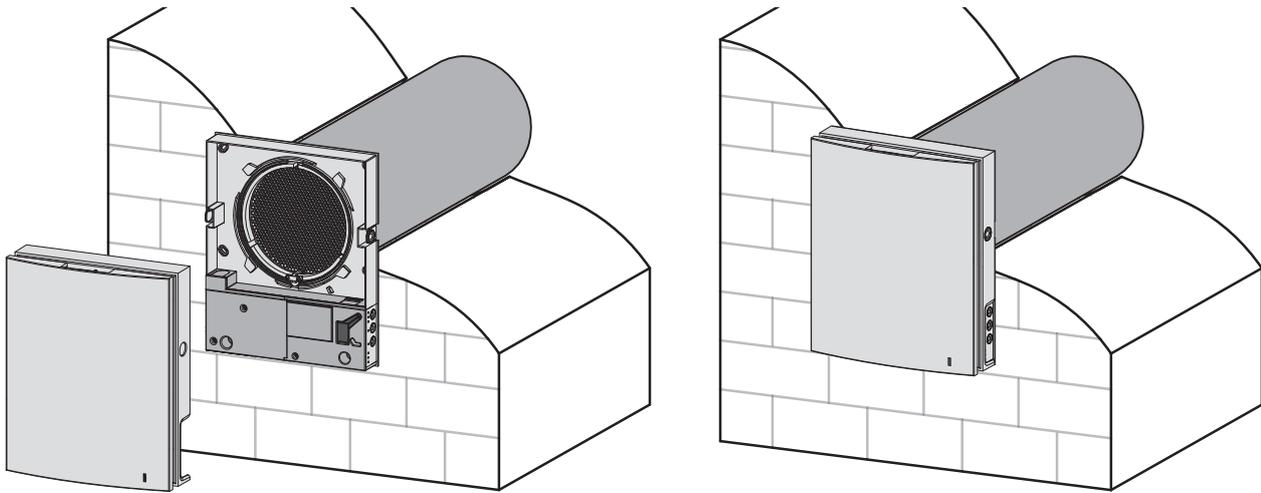
6. Insert the cartridge into the air duct as figured below. Be sure the pointer is directed upwards. Then



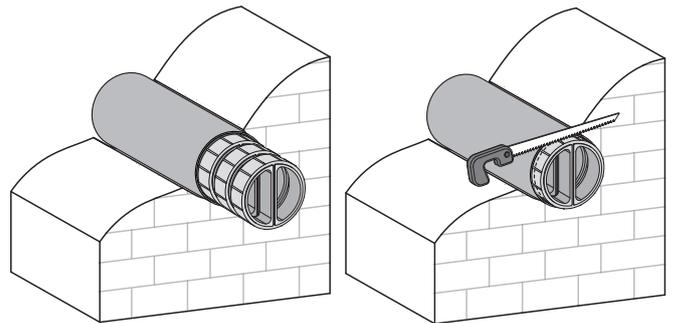
fix the wire with the protruding clamp and connect the socket connector to the circuit board.



7. Install the front part of the indoor unit.



8. Install the sectional air flow separators from the outside.
 Install a required quantity of the air flow separators in the air duct until it bumps up the cartridge.
 Mark the last air flow separator to be flush with the air duct face, remove it from the air duct and cut the excessive part of the last air flow separator.
 Tighter fixation is provided if the air flow separator protrudes to some distance.
 Install the adjusted air flow separators to the air duct.



9. Install the outer ventilation hood.

6. Connection to power mains and control



Disconnect the unit from power supply prior to any electric installation operations.

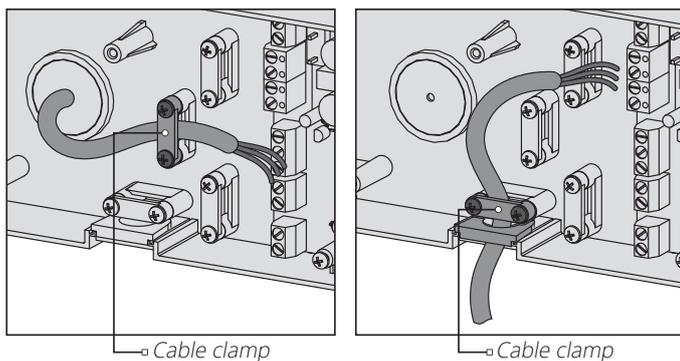


The rated electrical parameters are stated on the rating plate. Any tampering with the internal connections is prohibited and will void the warranty.



The following installation shall only be performed by a professional electrician according to the instruction in the user manual.

Changing the cable inlet.
It is possible to change the cable inlet from underneath the unit to the back. Any connections in the terminal according to the wiring diagram.



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

The units shall be installed according to current laws and regulations.

Signal cables shall be shielded and with a minimum cross section of 0.25 mm².

Connect the units to power mains in compliance with the wiring diagram, page 81.

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

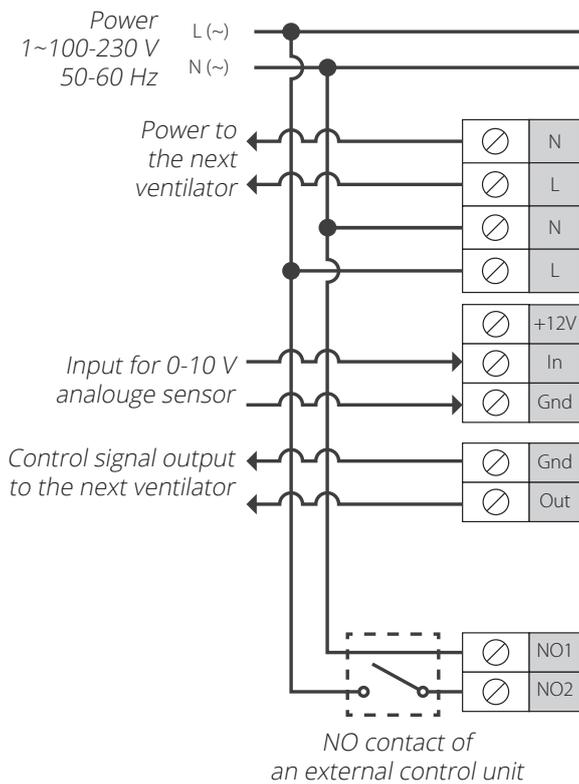
When the contacts of the NO contact of the external device are closed, the unit changes to maximum speed.

An analogue sensor with output voltage 0-10 V is also compatible with the unit. When this is activated the ventilator switches to high speed.

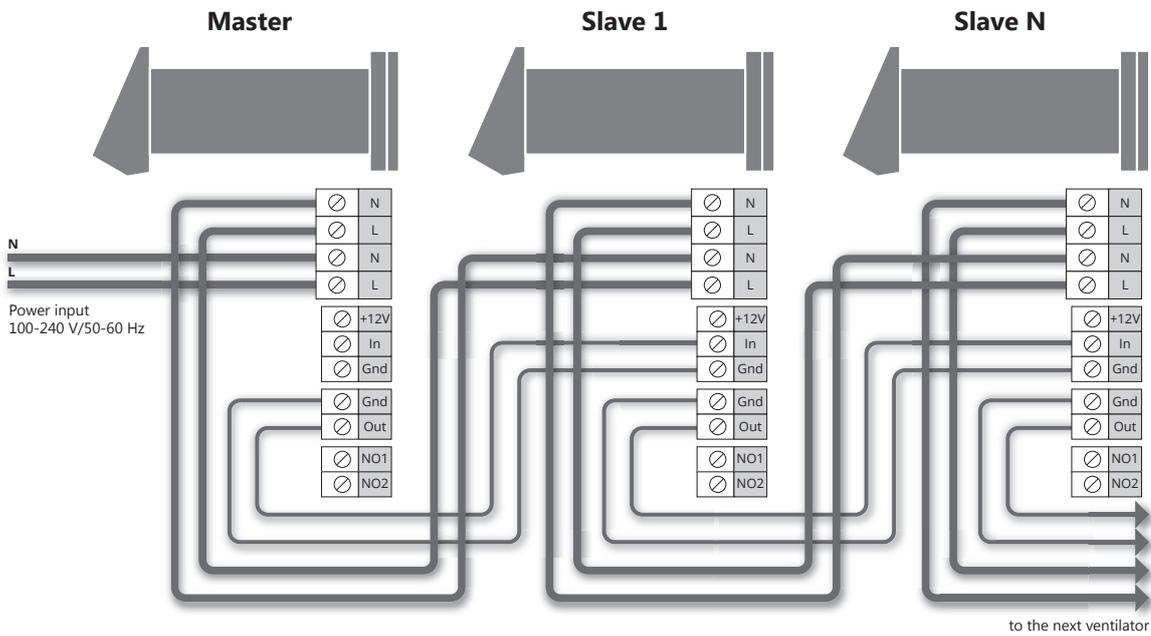
The ventilators can be connected in series and in parallel with a central control by the master ventilator.

In case of in series or in parallel connection of several ventilators power is supplied either from a previous ventilator or from power mains.

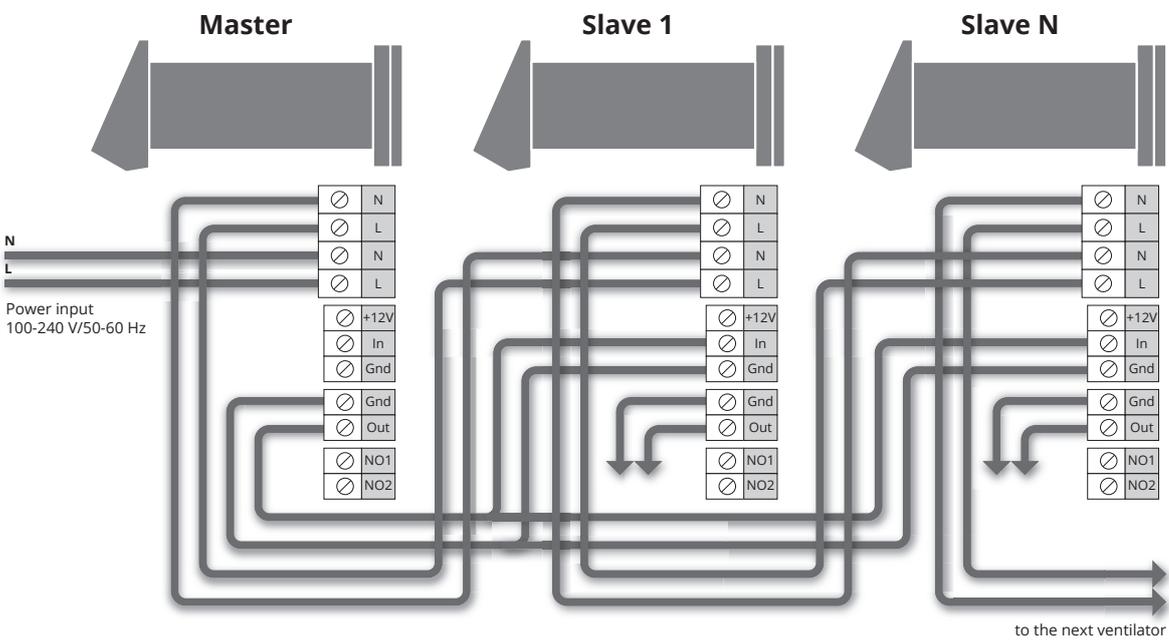
Wiring diagram



Wiring diagram for in series connection

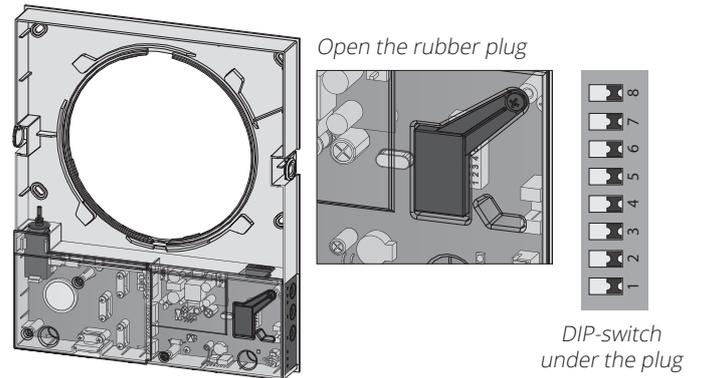


Wiring diagram for in parallel connection



Ventilator set-up

Prior to operating set up the ventilator using the DIP-switch. It is located on the controller circuit board. To access the DIP-switch take off the front panel of the indoor unit and uplift the rubber plug that covers the switch.



Position	Function
 1	Turning the unit off is allowed. The switch position enables deactivation of the unit with the button on the side control panel.
 1	Turning the unit off is forbidden. The switch position disables deactivation of the unit with the button on the side control panel.

Boost mode setup.

When the humidity sensor or the external relay is triggered, one of two operation algorithms starts.

Position	Function
 2	In this position the ventilator runs in the extract mode at the third speed (both fans run in the extract mode).
 2	In this position the ventilator switches to maximum speed without changing the operation mode.

Humidity sensor setpoint.

The humidity sensor measures the extract air humidity. If the extract air humidity is above the set point, the ventilator switches to Speed III. As humidity drops down to the set point, the ventilator changes to pre-set speed after elapsing of the time set on the delay timer.

Position	Function
 5	Humidity control is OFF
 4	
 3	
 5	Humidity setpoint 40 %
 4	
 3	
 5	Humidity setpoint 50 %
 4	
 3	
 5	Humidity setpoint 60 %
 4	
 3	
 5	Humidity setpoint 70 %
 4	
 3	
 5	Humidity setpoint 80 %
 4	
 3	

Delay timer.

During activation of the humidity sensor or any other control unit the unit switches to higher speed. After standardization of the indoor humidity or any other air parameters the unit returns to a previously set mode after set time period.

Position	Function
 7	Time delay 0 min
 6	
 7	Time delay 5 min
 6	
 7	Time delay 15 min
 6	
 7	Time delay 30 min
 6	

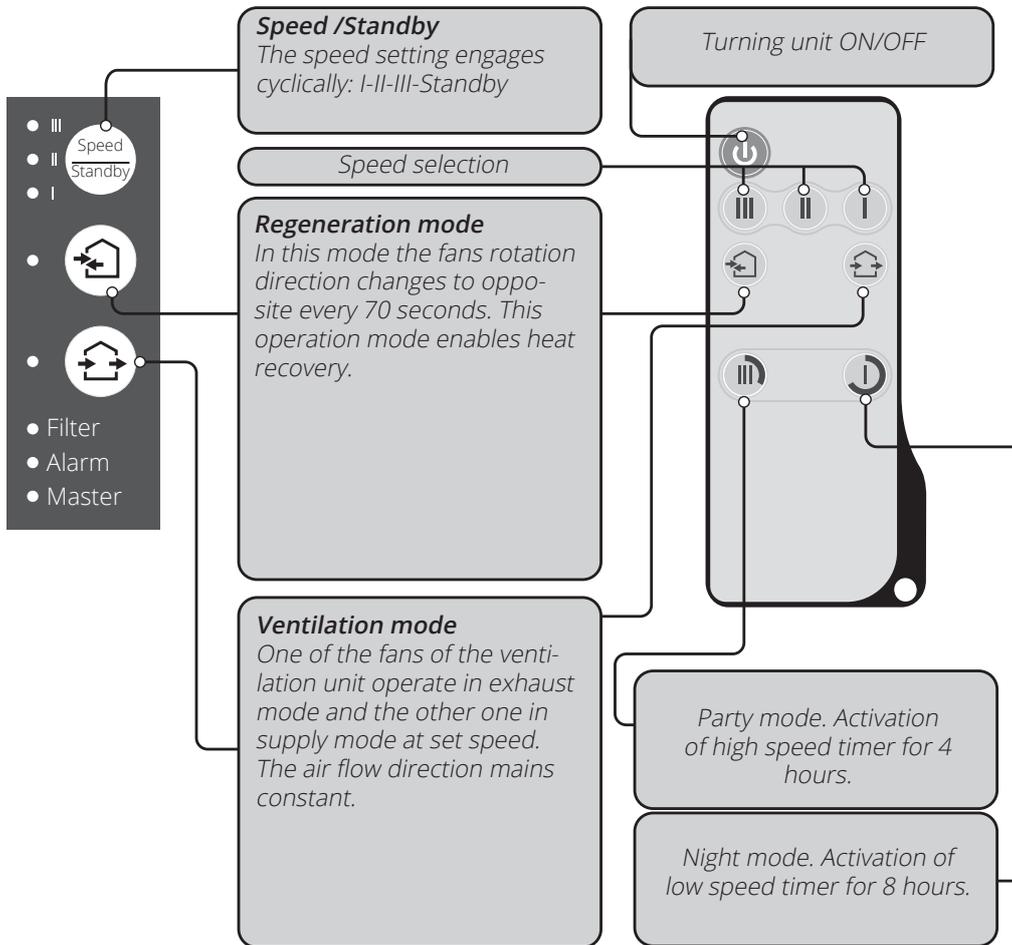
Unit control

The ventilation unit may be operated with the following controls:

- infra-red remote controller;
- control buttons located on the side wall of the indoor unit. For details, refer to the figure below.

Buttons on the unit casing

Remote control



Air flow blocking

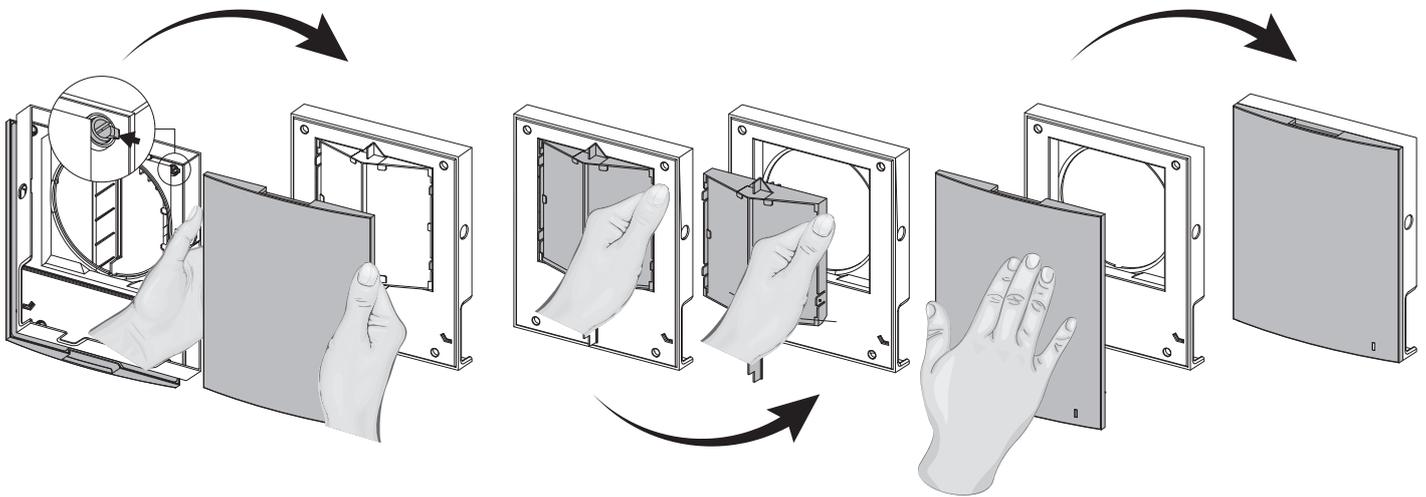
Press the side tabs to detach the front part of the indoor unit from its back part and close the air duct. Then open the latches and remove the front part of the front panel. Remove the air flow separator by pulling one of the side clamps. Install the front part of the front panel and press it gently to close the air duct.

The fan turns off automatically. The unit functionality is not changed.

Open the air duct in the reverse order.

The fan starts operating according to the actual speed setting.

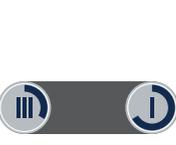
The front panel incorporates an operating LED indicator. During the dark time the indicator light intensity drops down.



Operation of the ventilation unit with the buttons on the indoor unit

	<p>The speed selection sequence is as follows: I, II, III, Standby. All the units integrated in a single network operate according to the speed settings of the Master unit. I: permanent glowing of the lamp indicator indicates operation of the unit with low speed. Blinking of the lamp indicates activation of the Night mode timer. I and II: permanent glowing of the lamp indicators I and II indicates operation of the unit with medium speed. I, II and III: permanent glowing of the lamp indicators I, II and III indicates operation of the ventilation unit with medium speed. Blinking of the lamp indicators I, II and III indicates activation of the timer for Party mode or the turn-off delay timer triggered by any connected external sensors or the integrated humidity sensor. Alternate blinking of the lamp indicators I, II and III indicates operation of the ventilation unit at a set speed according to the settings of the connected mobile device.</p>
	<p>Regeneration mode The fans rotation direction changes to opposite every 70 seconds. This mode enables heat recovery.</p>
	<p>Ventilation mode. One of the fans of the ventilation unit operates in exhaust mode and the other one operates in the supply mode at set speed. The air flow direction mains constant.</p>
<p>Filter</p>	<p>Filter replacement indicator. 90 days after installation of the cartridge the filter replacement indicator starts glowing. In this case replace or clean the filters as described in Maintenance section. After replacement of the filters reset the timer using the DIP switch.</p>
<p>Alarm</p>	<p>Alarm indicator for emergency shutdown of the unit. Permanent glowing of the Alarm indicator of the Master unit indicates an alarm in the network of the connected ventilation units. Its blinking indicates shutdown of a specific ventilation unit in the network. In case of an emergency shutdown of a unit in the network the defective ventilation unit is marked with the blinking Alarm indicator. The defective ventilation unit shuts down and the other connected ventilation units continue their operation.</p>
<p>Master</p>	<p>Permanent glowing of the lamp indicator indicates the leading unit in the network (Master unit). Blinking of the indicator indicates the driven unit (Slave) and no connection to the Master unit. No glowing of the lamp indicator means that this ventilation unit is a Slave ventilation unit and it is connected to the Master unit.</p>

Remote control of the ventilation unit

	<p>Turning the unit on/off. The unit may be turned off only if it is enabled by the settings. Reset of alarm and timer settings.</p>
	<p>Speed selection: high-medium-low respectively.</p>
	<p>Regeneration mode. The fan rotation direction changes to opposite every 70 seconds. This mode enables heat recovery.</p>
	<p>Ventilation mode. One of the fans of the ventilation unit operates in exhaust mode and the other one operates in the supply mode at set speed. The air flow direction mains constant.</p>
	<p>Timer control button:</p> <p> Party mode: the timer activates operation of the unit at high speed for a set time period, 4 hours by default. The setting may be edited during setup of the unit or using the mobile application.</p> <p> Night mode: the timer activates operation of the ventilation unit at low speed for a set time period, 8 hours by default. The timer setting may be changed during setup of the unit or using the mobile application. 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.</p>

7. Technical maintenance

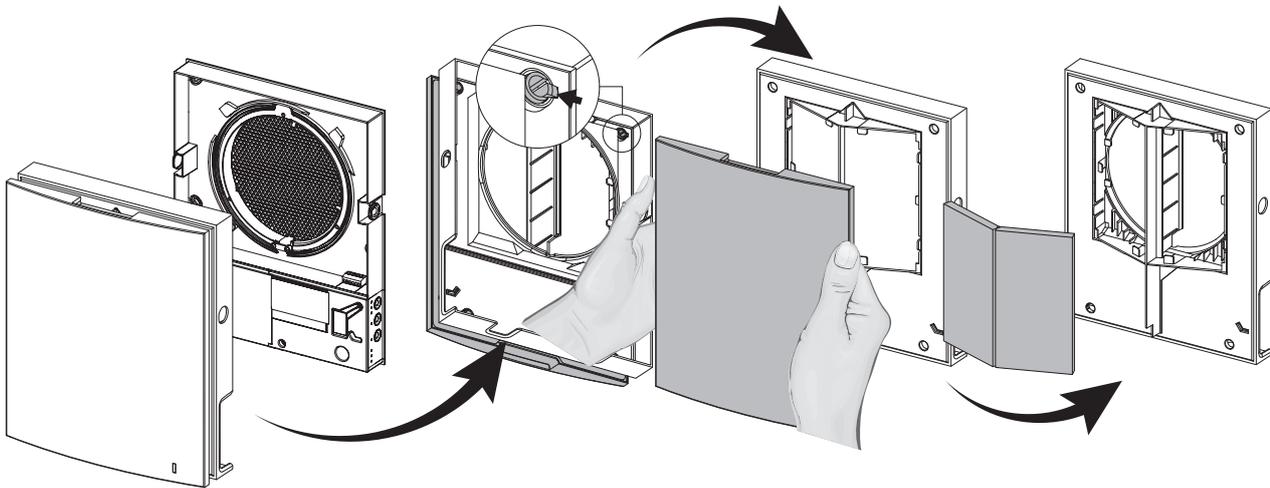


Disconnect the unit from power supply before any maintenance operations.

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 unit using the remote control or the buttons on the indoor unit.

1. Press the latches on the side of the indoor control unit to take off the front part. Then open the latches and remove the front part of the front panel. Remove the filters for cleaning. Reverse the above procedures to reassemble.

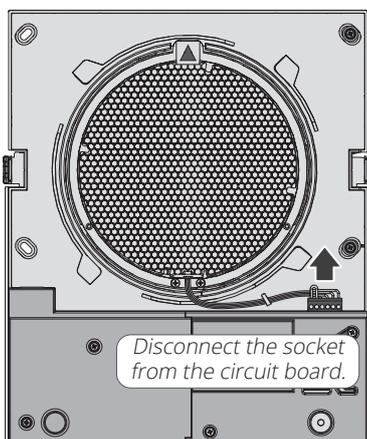


2. Disconnect the socket from the circuit board. While removing the socket do not pull the wires. Uplift it with a flat screw driver of a respective size.

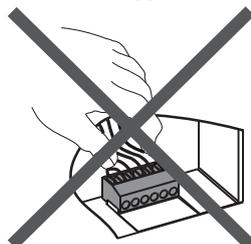


Never remove the control board! It may cause an alarm!

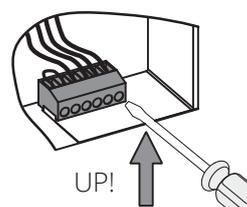
After completion of the servicing and assembly of the ventilation unit and re-installation of the socket reset an alarm following the procedure on page 21.



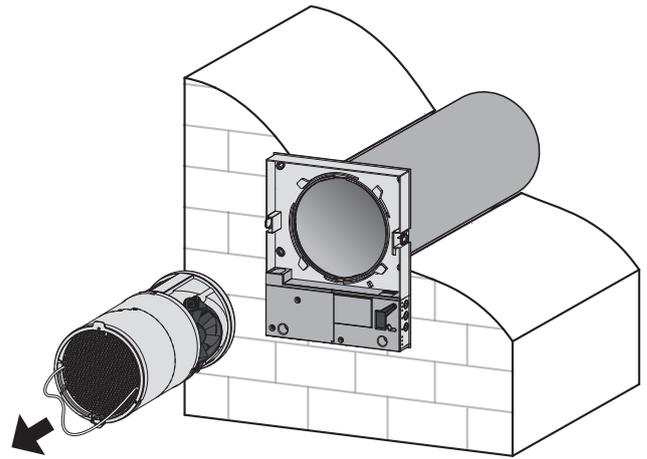
Do not pull the wires!



Use a flat screwdriver to disconnect the socket.

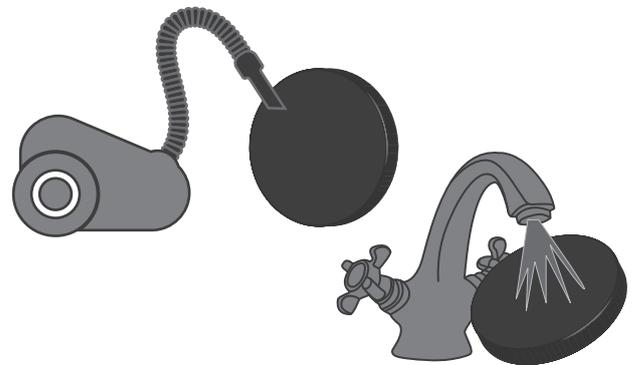


3. Pull the cord to remove the cartridge from the air duct.



Clean the filters as they get clogged, but not less than once in three months.

- After the set filter replacement periodicity (90 days) has expired the Filter indicator starts glowing.
- Reset the filter timer for the unit by turning the DIP switch 8 off and back on again.
- Wash the filters and let them get dry. Install dry filters in the air duct.
- Vacuum cleaning is allowed.
- The filter rated service life is 3 years.
- For new filters contact the Seller.



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.



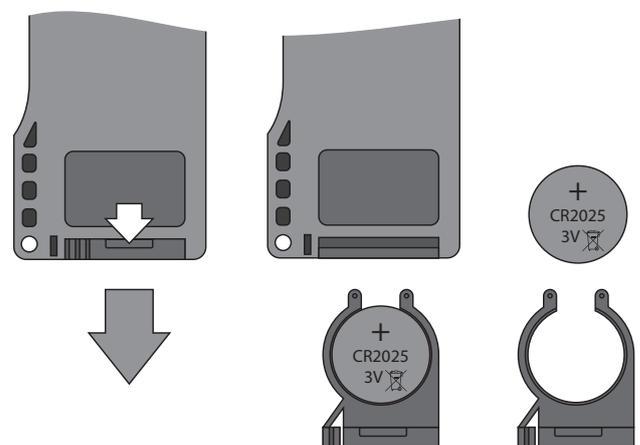
4. Replacement of the remote control battery (if necessary).

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.

Battery type: 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.



8. 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 the connection error.
	The motor is jammed, the impeller blades are soiled.	Turn the ventilator off. Troubleshoot the motor jam and the impeller clogging. Clean the blades. Restart the ventilator.
Circuit breaker tripping during the ventilator start-up.	Overcurrent as a result of short circuit in the electric circuit.	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 ventilator casing or the outer ventilation hood.	Tighten the screws of the ventilator or the outer ventilation hood.

9. Storage and transportation regulations

Store the unit in the manufacturer's original packing box in a dry closed ventilated premise with temperature range from +5 °C to + 40 °C.

Storage environment must not contain aggressive vapours 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 transported in the original packing by any mode of transport without limitation provided proper protection against precipitation and mechanical damage.

Avoid sharp blows, scratches or rough handling during loading and unloading.

Do not expose the unit to sudden changes in temperature.

Such changes can lead to condensation of moisture inside the unit and performance disturbance when the unit is switched on.



Prior to the initial power-up after transportation at subzero temperatures allow the unit to warm up at room temperature for at least 2 hours.

10. CE Declaration of conformity

This declaration confirms that the products meet the requirements in the following Council Directives and standards:

2014/30/EC Electromagnetic compatibility (EMC)

2014/35/EC Low-voltage Directive (LVD)

93/68/EEC CE-marking Directive on the approximation of the laws of the Member States relating to electromagnetic compatibility.

Producer: VENTILATION SYSTEMS PrJSC
1, Mikhaila Kotzubinskogo St., Kiev, 01030, Ukraine

Type: Single-room ventilators;
Roomie One Wifi
Roomie Dual
Roomie Dual Wifi
Eq 2

Art.no.: 115996, 115999, 116000, 116001

Compliance with valid versions of the following standards on the date on which the declaration of conformity was signed:

Safety standard:	EN 60335-1 EN 60335-2-80
EMF standard:	EN 62233
EMC standard:	EN 55014-1 EN 55014-2 EN 61000-3-2 EN 61000-3-3

Flexit AS 30.11.2016



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