FLEXIT

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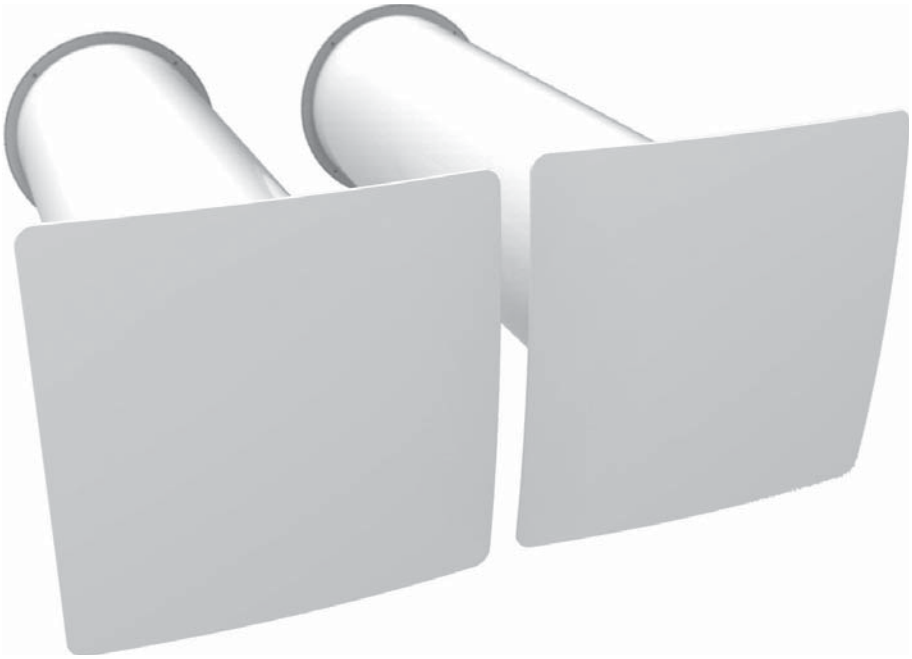
2017-03

Eq 2



ART. NO.:
116001

EN

Assembly and Operation Instructions

Heat recovery single-room reversible ventilation unit

EN

Contents

SAFETY REQUIREMENTS

- Read the user's manual carefully prior to installing and operating the unit.
- Fulfil the user's manual requirements as well as the provisions of all the applicable local and national construction, electrical and technical norms and standards.
- 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.

The user's manual consisting of the technical details, operating instructions and technical specification applies to the installation and mounting of the single-room energy recovery reversible ventilator Eq 2 (hereinafter referred to as «the unit»).

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 may be used by children of 8 years or above or by persons with reduced sensory capacity or reduced physical or mental capacity, or by persons with lacking experience or knowledge, provided they have received instructions in the safe use of the appliance or are supervised to ensure safe use and providing they are aware of the risks.

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.

Unit mounting and operation safety precautions

- Disconnect the unit from power mains prior to any installation operations.

- Do not lay the power cable of the unit in close proximity to heating equipment.

- Unpack the unit with care.

- While installing the unit follow the safety regulations specific to the use of electric tools.

- Do not use damaged equipment or cables when connecting the unit to power mains.

- Do not touch the unit controls with wet hands.
- Do not carry out the installation and maintenance operations with wet hands.

- Do not operate the unit outside the temperature range stated in the user's manual.
- Do not operate the unit in aggressive or explosive environments.

- Protect the electric parts of the unit against ingress of water.

- Do not open the unit during operation.

- Do not block the air duct when the unit is switched on.

- Disconnect the unit from power mains prior to any technical maintenance.

- If the unit generates unusual sounds, odour or emits smoke disconnect it from power supply and contact the Seller.

- In case of continuous operation of the unit periodically check the security of mounting.

- Use the unit only for its intended purpose.

2. Purpose

The unit is designed to ensure continuous mechanical air exchange in houses, apartments, commercial buildings and other utility and public spaces.
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).

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

1. Technical data

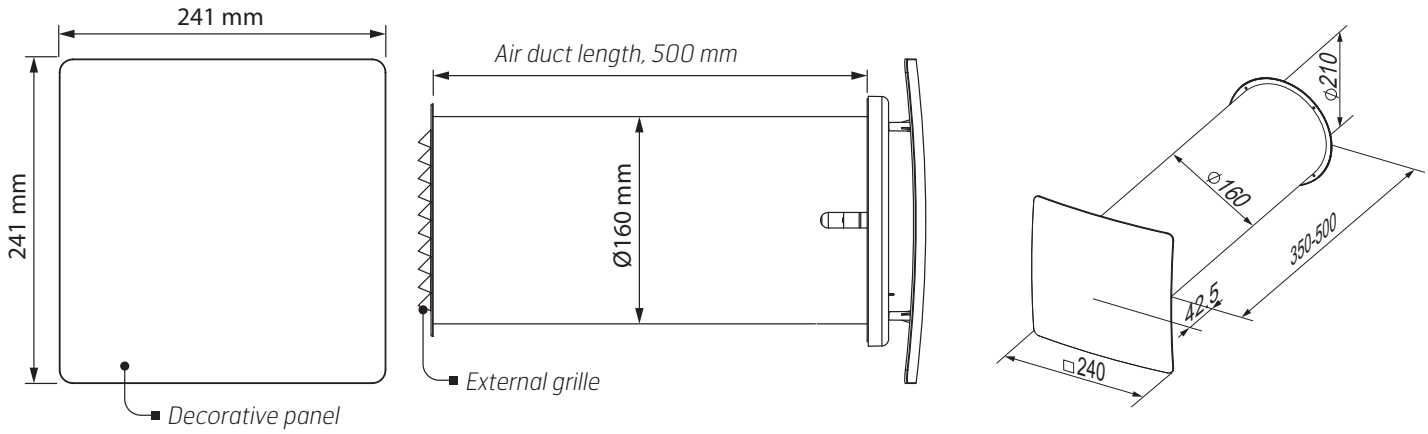
The unit is designed for indoor use. The units is constantly being improved, so some models can slightly differ from those ones described in this manual.

Eq 2 (2 units)			
Speed	I	II	III
Airflow (m^3/h)	15	30	50
Sound pressure* Lp(A) 3m	19	28	37
Sound power* Lv(A)	36	45	54
Power consumption* (W)	1,6	3	5,6
Current* (A)	0,018	0,032	0,06
Fan speed (rpm)	1030	1760	2690
Voltage (V/50-60Hz)	100-240V		
Filter class	G3 (F8 accessories)		
Ingress protection	IP 24		
Operating temperature	-25°C to 50°C		
Wall thickness	350-500 mm		

* Per unit

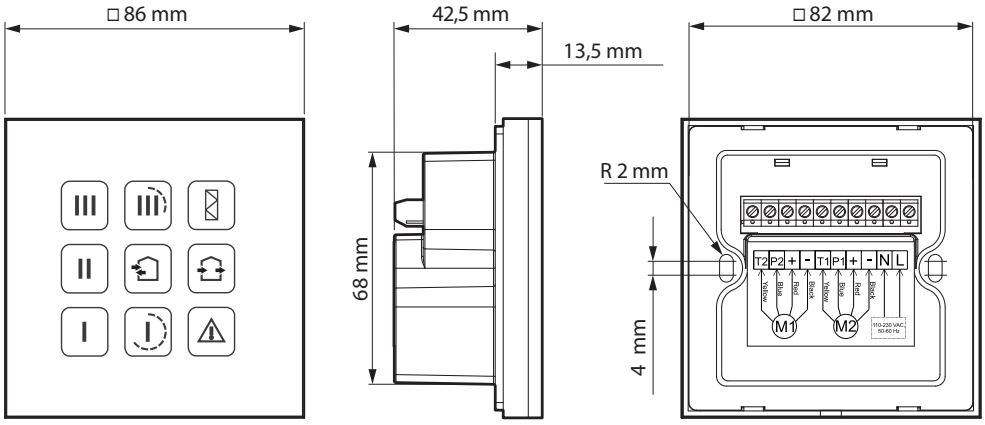
3. Delivery set

Name	Number
Air duct	2 item
Sound-absorbing layer	2 item
Assembled cartridge	2 item
Internal square ventilation grille	2 item
External grille	2 item
Control panel	1 item
Fastening set	1 pack
Mounting box	2 item
User's manual	1 item
Packing box	1 item



The duct can be cut at 350 mm. Not shorter due to the outer grille and the heat exchanger.

Hoods for thinner walls are available as accessories. Min. wall thickness can with theese be reduced by 100 mm.



Control panel

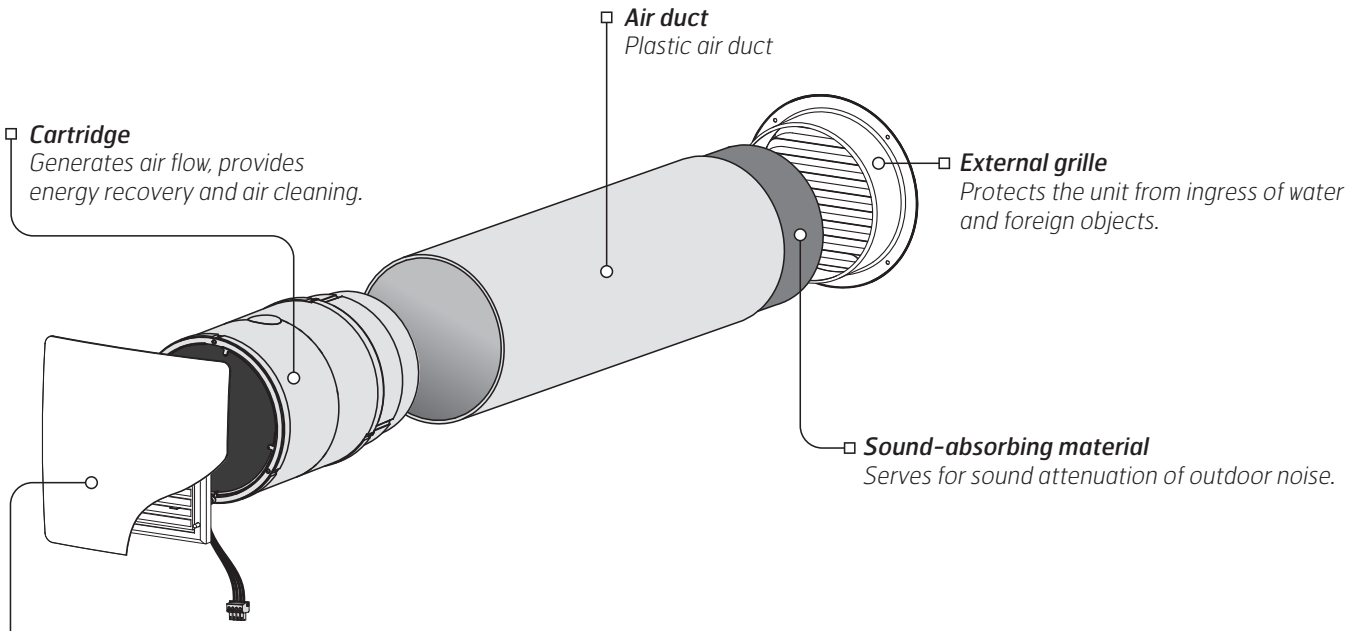
The sensor panel contains touch buttons for unit control and an emergency indicator.
Boxes for both flush and on wall mount are included in the package.

Unit voltage [V /50-60 Hz]	110-230
Temperature range [˚C]	from +10 up to +45
Humidity range [%]	10 - 80 (no condensation)
Service life, switching operations	100 000
Ingress protection	IP30
Weight [g]	190

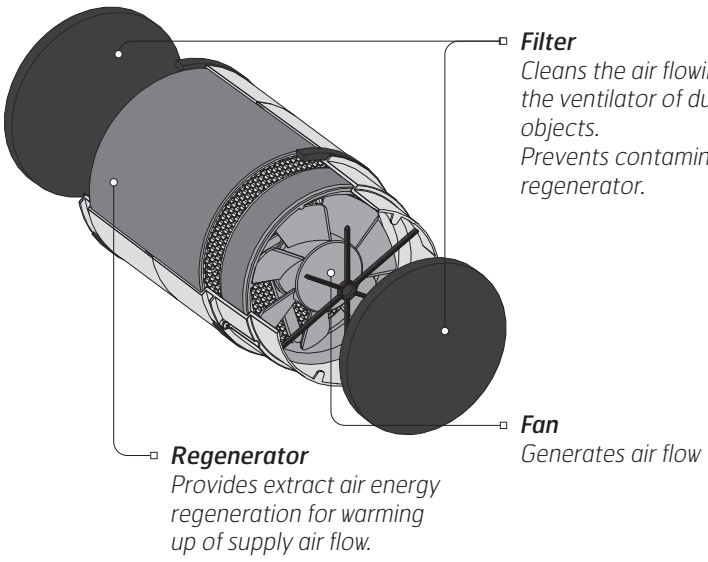
4. Product description

The unit consists of a protecting internal grille with a decorative panel, a cartridge, an air duct and a protecting external ventilation grille or a hood.
The cartridge is the basic functioning part of the unit.
The cartridge consists of a fan, a regenerator and two filters that ensure rough air filtration and prevent ingress of dust and foreign objects into the regenerator and the fan.
The internal grille is equipped with manually actuated shutters which can close the air duct during the unit standstill.
The external protective grille on the outer wall prevents ingress of water and foreign objects into the unit.

Unit design



Cartridge design



Cartridge is a block consisting of removable filters and a solid fan-regenerator unit.
The filters are easy removable for maintenance.

Unit operation modes

The unit has two ventilation modes:

Regeneration. The unit operates in reversible mode with heat and humidity regeneration in two cycles, 70 seconds each.

Ventilation. The unit operates in permanent supply or extract mode at set speed. In case of two units operating in this mode one unit operates in supply and the other one in extract mode.

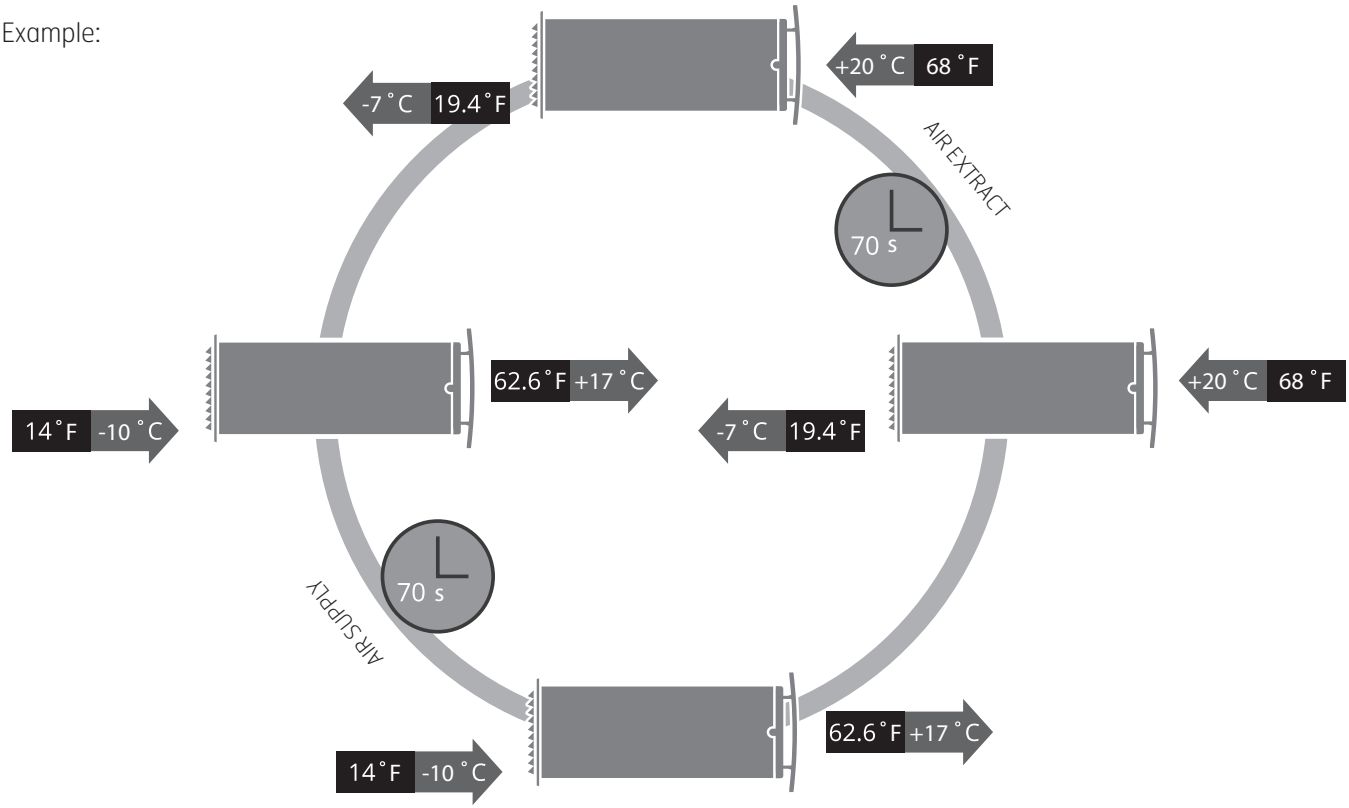
Cycle I.

As warm stale extract air flows through the ceramic regenerator, it heats up and moisturizes the regenerator and transfers up to 97 % of heat energy.
In 70 seconds as the ceramic regenerator gets warmed the unit is switched to supply mode.

Cycle II.

Fresh intake air from outside flows through the ceramic regenerator, absorbs accumulated moisture and is heated up to the room temperature.
In 70 seconds as the ceramic regenerator gets cooled down, the unit is switched to air extract mode and the cycle is renewed.
In this operation mode, in case if two units are installed each of them operates two cycles in opposite phases.
While one unit operates in air supply mode the other one operates in air extract mode.

Example:



5. Mounting and set-up

5.1. WALL-MOUNTED CONTROL PANEL INSTALLATION AND CONNECTION

Installation and connection of control panel shall only be performed by professional electrician.

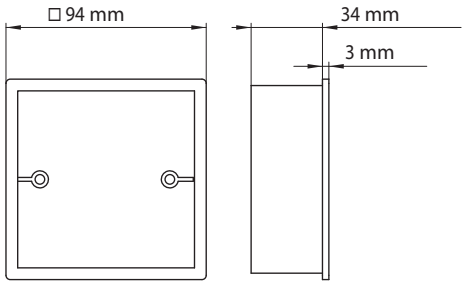
Do not install the control panel on an uneven surface!

Make sure that the control panel is not damaged. Do not use a damaged control panel!

While tightening the screws, do not apply excessive force to prevent the control panel casing deformation.

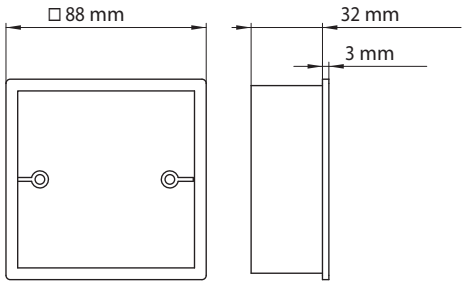
1. a) Flush mount

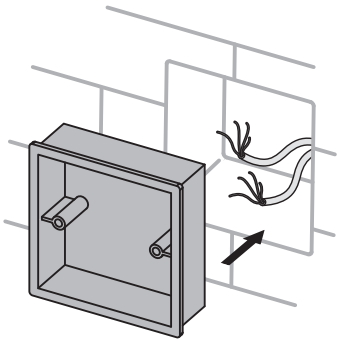
Prepare a hole in the wall and route all the wires to the installation place. Insert the supplied mounting box for flush wall mounting. The mounting box is included in delivery.



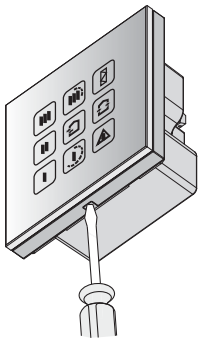
1. b) On-wall mount

Fix the supplied mounting box for on-wall mount onto the wall. The mounting box is included in the delivery.

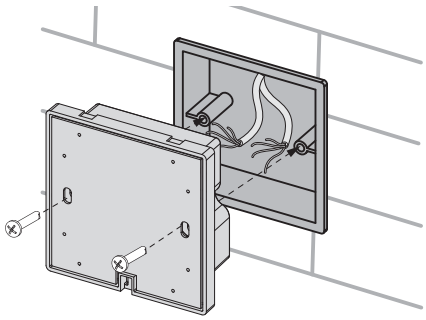




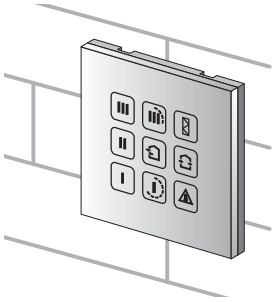
2. Use a screwdriver to carefully undo the clips on the backside of the control panel and remove the back cover.



3. Screw the backside of the casing to the mounting box through the fastening holes. Fastening screws for mounting of the control panel are included in the control panel delivery set. Then connect the cable to the control panel in compliance with the wiring diagram, page 16.



4. Install the control panel display and press it to fix.

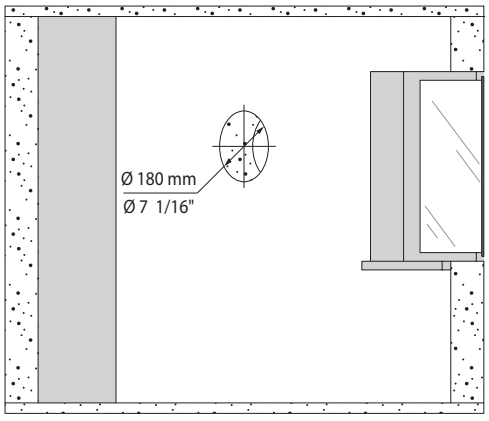


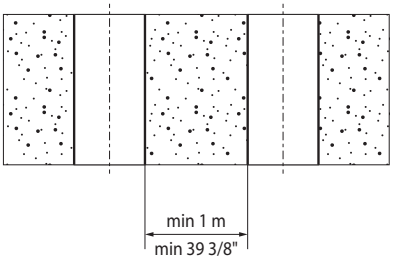
5.2. UNIT MOUNTING

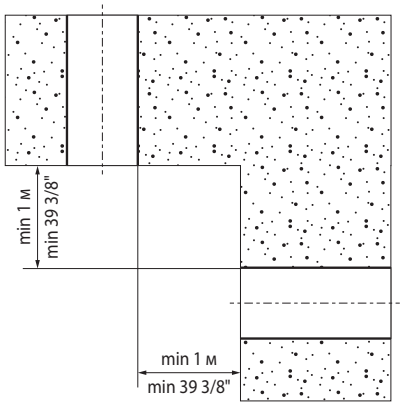
Read the user's manual prior to mounting the unit.

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 holes for the air ducts.
Prepare a round core hole in the outer wall, depending on the unit equipment.
For efficient operation of the ventilation system it is recommended to install the units as far apart from one another as possible.
While preparing core holes it is recommended to make preparations for layout of the power cable and other required cables.
The core hole size and minimum distance to a mounting surface, for example, a wall, ceiling or a window as well as the minimum distance between the units are shown below.





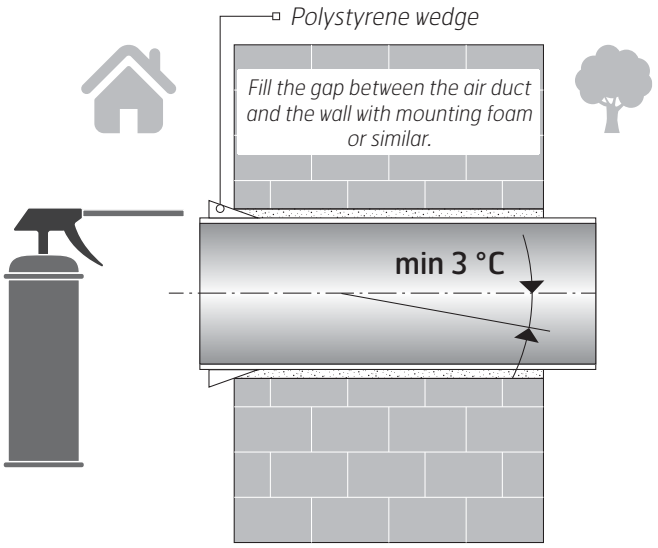


2. Prepare air ducts of required length.

Measure the wall thickness.
Cut the air duct so it fits flush on both sides of the wall.
Min. length is 350 mm.

Cut the air duct on the outher side which don´t have cable grooves.

Insert the air duct into a prepared hole in the wall.
The cable grooves must be located on inner wall side.

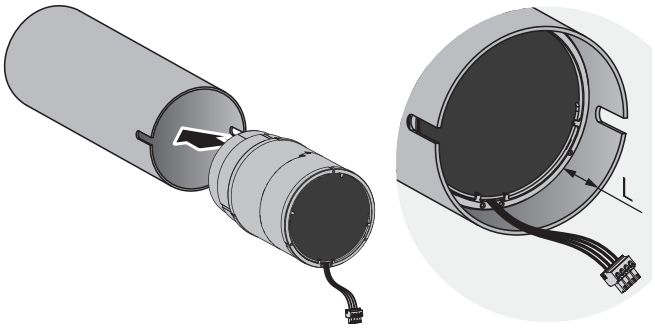


3. Install the sound-absorbing layer in the air duct.
Prior to installation adjust its length with respect to the dimensions of the cartridge, external grille or the outer ventilation hood as well as the internal square or round grille.

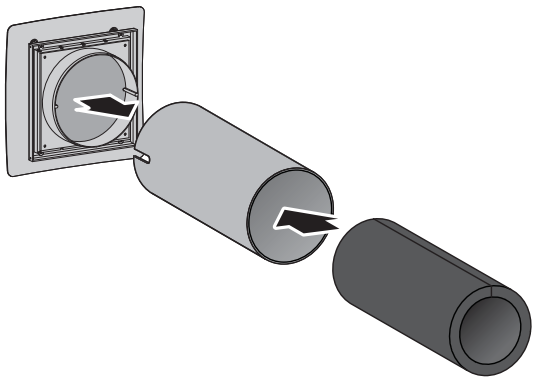
This example shows adjustment of the sound-absorbing layer length calculated from the flange width of the square inner grille.

Insert the cartridge during adjustment in the air duct.

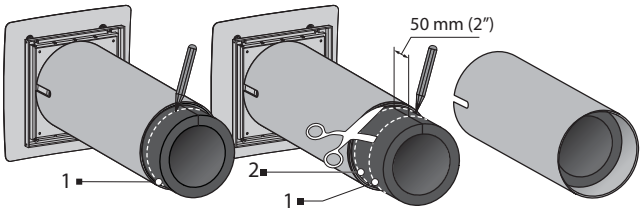
L = 40 mm



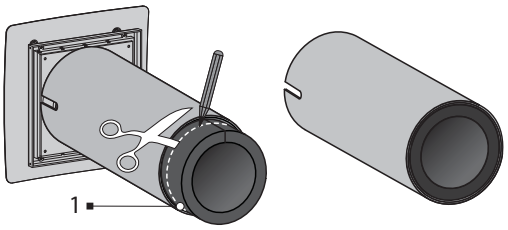
During adjustment of the insulation layer length cover the air duct and the cartridge with the internal grille.
Roll the sound-absorbing layer to match the air duct diameter with the protecting paper layer outside and insert the roll in the air duct against stop.
Do not remove the paper layer!



The adjustment of the sound-absorbing layer length for the unit with an external grille
Mark the sound-absorbing layer at the end of the air duct (1).
From the mark (1) measure 55 mm and make a new mark (2). Cut the excessive part of the sound-absorbing layer.
Insert the adjusted and ready sound-absorbing layer into the air duct.
No glue is required for fixation!

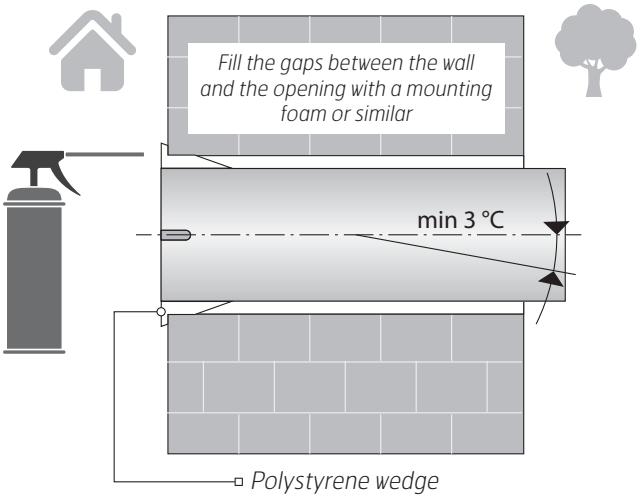


The adjustment of the sound-absorbing layer length for the unit with an outer hood (accessories)
Mark the sound-absorbing layer at the end of the air duct (1). Cut the excessive part of the sound-absorbing layer.
Insert the adjusted and ready sound-absorbing layer into the air duct.
No glue is required for fixation!

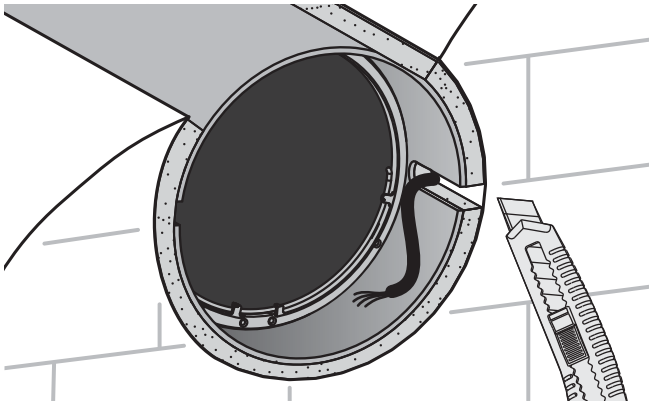


4. Insert the air duct in the wall.

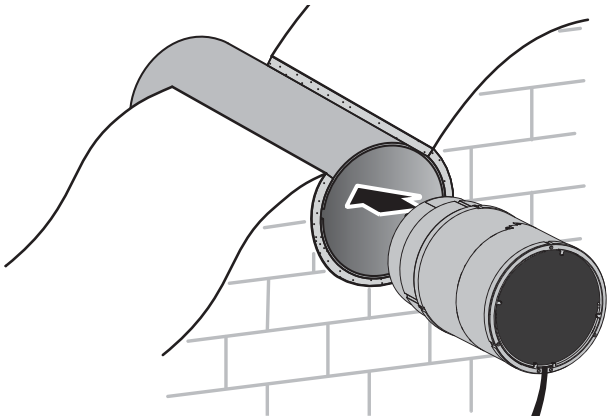
Install the air duct with the sound-absorbing layer with minimum slope 3° downwards using polystyrene wedges. Fill the gaps between the wall and the opening with a mounting foam.



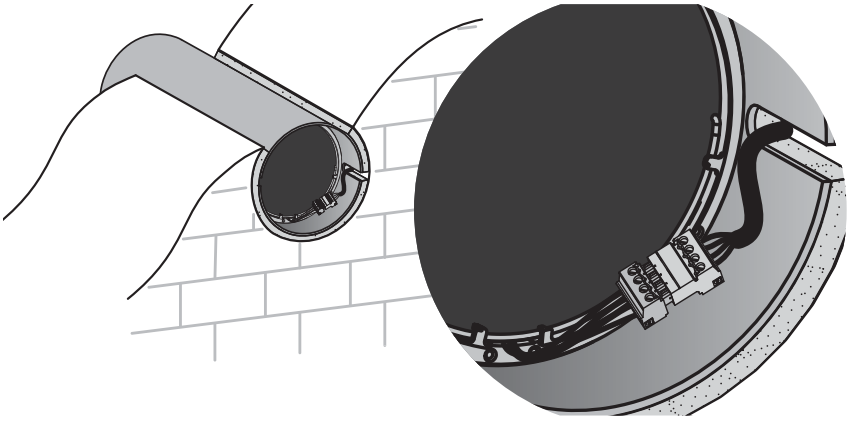
To enable easy installation of the cartridge in the air duct cut out a recess in the mounting foam layer on the side of the cable installation parallel to the groove in the air duct.
For freedom of placement of the cable in the groove without any damage to the cable insulating material, cut off the excess of the mounting foam.



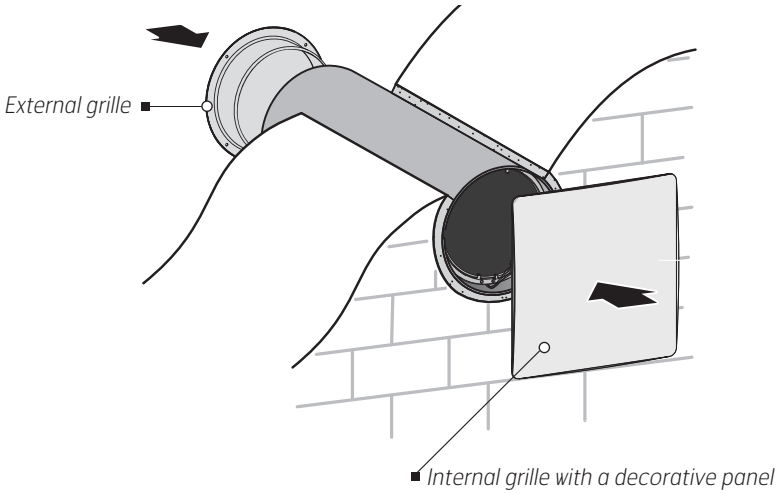
5. Install the cartridge in the air duct.



6. Connect the socket connector from the control panel in compliance with the external wiring diagram. Connect the socket connectors of the cartridge and the control panel.



7. Install the internal grille and fix the external grille.



For mounting of the outer ventilation hood, please refer to a respective hood installation instruction.

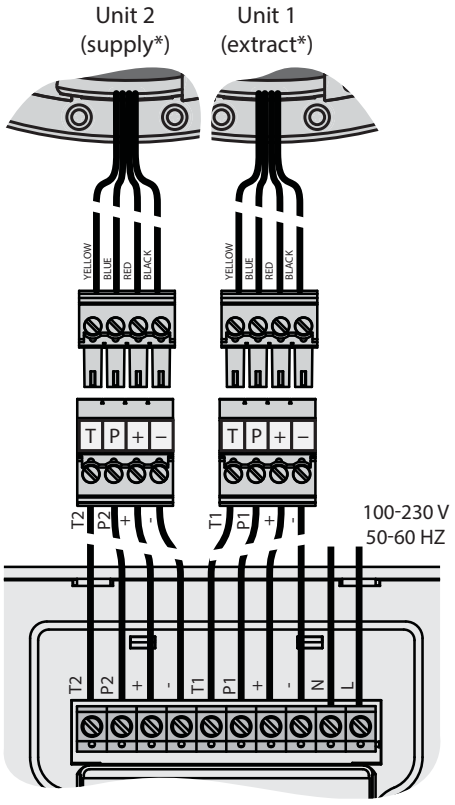
6. Connection to power mains and control

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

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

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

Wiring diagram



*in ventilation mode only

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 mm^2.

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

Unit control

The unit is operated with the control panel.

The control panel must be installed in the included mounting box during operations.

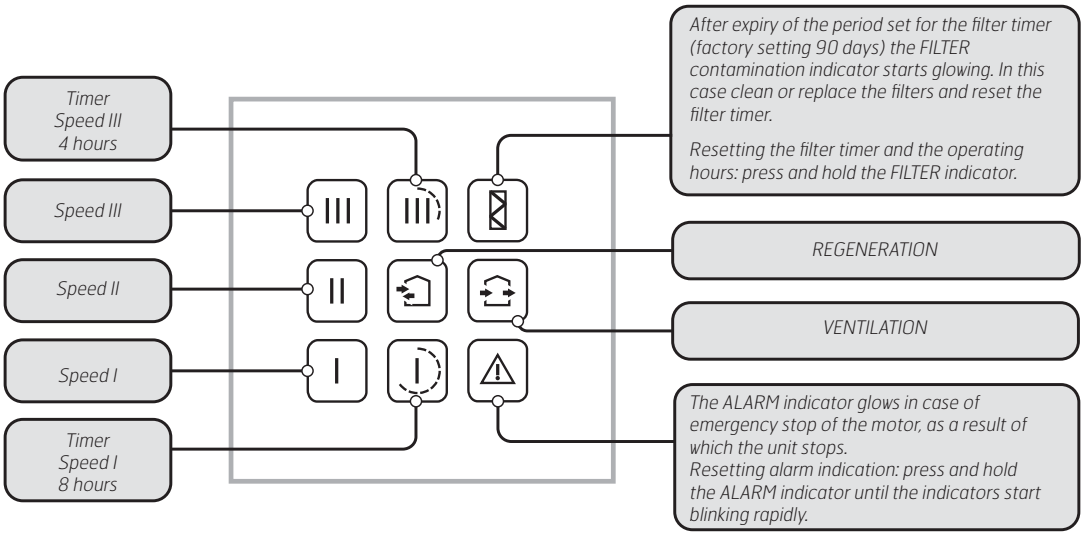
Press the buttons precisely on the control panel. Pressing the buttons quickly and shortly may result in malfunction of the unit!

The following parameters are set with the control panel:
- unit operation speed: I, II, III;
- unit operation mode: REGENERATION or VENTILATION;
- timer-based operation of the unit: 4 hours at speed III or 8 hours at speed I.

The control panel displays the following parameters:
- current unit speed
- current operation mode of the unit
- timer operation status (on/off)
- filter replacement/cleaning need according to indications of the filter timer (factory setting 90 days)
- emergency shutdown of the unit in case of a motor failure

In case of power cut-off the set parameters are saved in the non-volatile memory of the control panel.

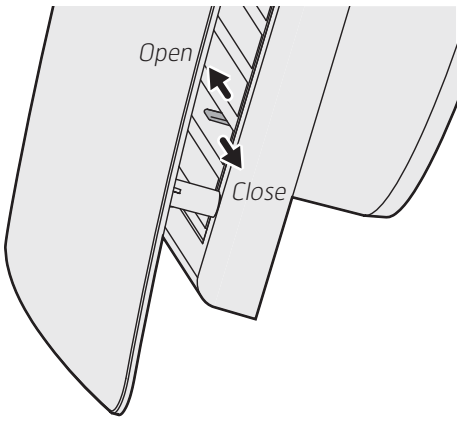
Unit control with a sensor control panel



Turning the unit on	Press any of speed selection buttons I, II, III or the timer buttons, .
Turning the unit off	Press the active speed button I, II, III or the active timer button , , if no speed button is active.
Unit speed selection	Press the inactive speed button I, II, III.
Unit operation mode selection	Press the inactive REGENERATION or VENTILATION button. The direction of air flow in the unit (supply and extract mode) is set when connecting the unit according to the external connections wiring diagram.
Turning the timer on	Press the timer button or .
Timer selection	Press the inactive timer button or .
Turning the timer off	Press the active timer button or . If the timer period expires: The unit continues operation at a set speed. The speed can be selected before switching on the timer as well as during the timer-based operation. The unit turns off if the speed was not selected.

Air duct closing

To close the air duct pull a small handle between the grille shutters to the left against stop.
To open the air duct pull this handle to the right.

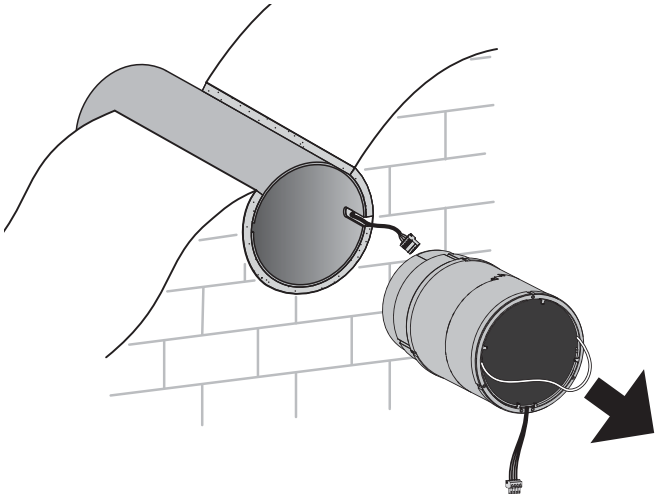


7. Technical maintance

Disconnect the unit from power supply before any maintenance operations!

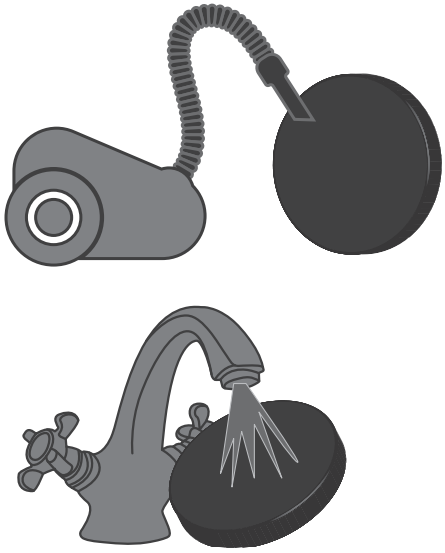
Maintenance of the unit means regular cleaning of the unit surfaces of dust and cleaning and replacement of the filters.
To access the basic assembly units follow the steps:

Disconnect the socket connectors. Push the cable from the control panel aside to the wall and pull the cord from the cartridge to remove it from the air duct. Remove the filters from the cartridge.



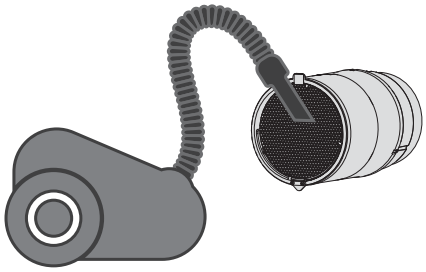
Clean the filters as they get contaminated, but not less than once in three months.

- After expiry of the period set for the filter timer (factory setting 90 days) the filter replacement indicator appears on the control panel display.
- Wash the filters and let those dry out completely. Then install the dry filters in the air duct.
- Vacuum cleaning is allowed.
- The filter rated service life is 3 years.
- For new filters contact the Seller.



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

- Clean the regenerator regularly to ensure its high regeneration efficiency.
- Clean the regenerator with a vacuum cleaner at least once a year.



8. Troubleshooting

Problem	Possible reasons	Troubleshooting
The fan does not start up during the unit start-up. The control panel displays no information and does not respond to the button pressing.	No power supply.	Make sure the power supply line is connected correctly, otherwise troubleshoot the connection error.
The control panel displays an alarm indicator ⚠.	Motor is jammed, the impeller blades are clogged.	Turn the unit off. Clean the impeller to troubleshoot the motor jam. Restart the unit.
	Communication loss in connecting cable between the fan motor and the control panel.	Turn the unit off. Contact the Seller for further information.
Automatic switch tripping following the unit turning on.	Overcurrent as a result of short circuit in the electric line.	Turn the unit 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.

9. Storage and transportation regulations

Store the unit in the manufacturer's original packing box in a dry ventilated premise at ambient temperatures from +5 °C up 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 carried in the original packing by any mode of transport 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

Frank Petersen
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