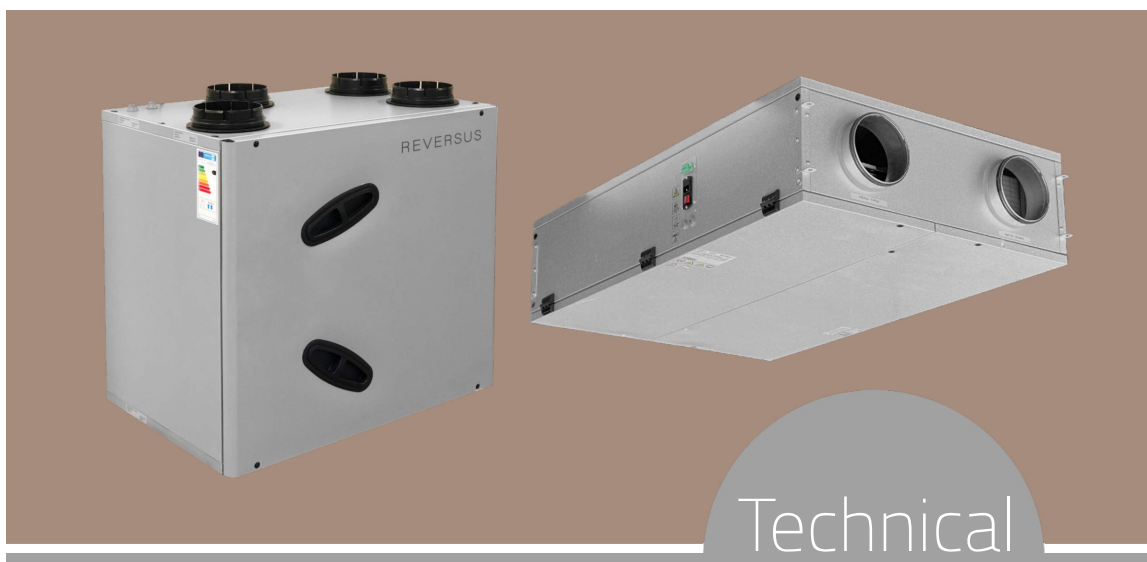


HEAT-RECOVERY VENTILATION UNITS



REVERSUS
FLAT

GUIDE FOR INSTALLATION,
USE AND MAINTENANCE



www.aerovent.pl

aeroVent
REKUPERATORY I WENTYLACJA

WARNING!

ELECTRICAL DEVICE UNDER VOLTAGE!

Before starting the unit, please read this manual!

Keep the manual for future reference in case of maintenance or operational issues.

WARNINGS!



The exclamation mark symbol indicates that special attention should be paid to the actions described in the text next to it.



All maintenance activities, such as filter replacement, cleaning, etc., should be performed with the power cord disconnected.



Before performing any actions related to the power supply (connecting wires, installing the device, etc.), make sure the unit is disconnected from the electrical network! Before opening the enclosure, always disconnect the power cable from the socket and wait for 2 minutes.



The installation should be carried out by a person with the appropriate electrical qualifications.



Incorrect wiring connection may damage the control panel.



Incorrect wiring connections may cause damage to the unit.



The device does not require specialized tools necessary for the manual disassembly of permanent magnet motors, electronic components (printed connection boards/printed circuit boards, and displays).

TABLE OF CONTENTS

<u>User Safety</u>	<u>4</u>
<u>General Description of the Devices</u>	<u>5</u>
<u>Functions of Ventilation Units</u>	<u>7</u>
<u>Technical Data of Reversus</u>	<u>8</u>
<u>Technical Data of FLAT</u>	<u>9</u>
<u>Installation Conditions for Reversus</u>	<u>10</u>
<u>Installation Conditions for FLAT</u>	<u>11</u>
<u>Technical Data of the Controller</u>	<u>13</u>
<u>Electrical Diagram</u>	<u>14</u>
<u>Automation Diagram</u>	<u>16</u>
<u>Modbus Communication</u>	<u>16</u>
<u>Hood Connection</u>	<u>18</u>
<u>Connection to Alarm Systems</u>	<u>18</u>
<u>Connection of Air Parameter Sensors</u>	<u>18</u>
<u>Connection of GWC (Ground Heat Exchanger) Damper</u>	<u>19</u>
<u>Ventilation Unit Control Panel</u>	<u>20</u>
<u>Specification</u>	<u>21</u>
<u>Installation of the Room Panel</u>	<u>22</u>
<u>Replacement of the Room Panel</u>	<u>22</u>
<u>Operation Manual for the SQP V Room Panel</u>	<u>24</u>
<u>Air Filters</u>	<u>26</u>
<u>Method of Replacing Filters in Reversus</u>	<u>27</u>
<u>Method of Replacing Filters in Flat</u>	<u>27</u>
<u>EcoNEXT Mobile Application Manual</u>	<u>30</u>
<u>Operation via Room Panel</u>	<u>31</u>
<u>Wi-Fi Network Connection Configuration</u>	<u>31</u>
<u>Controller Operating Modes</u>	<u>33</u>
<u>Device Operating Modes</u>	<u>33</u>
<u>Bypass Operation</u>	<u>35</u>
<u>Alarm System</u>	<u>35</u>
<u>Filter Replacement Procedure</u>	<u>36</u>
<u>Repairs</u>	<u>37</u>
<u>Cleaning, Maintenance, Disposa</u>	<u>38</u>



Safety of Use

The ventilation unit is equipped with safety systems:

- Protection against freezing of the heat exchanger.
- Protection against operation at excessively low or high outdoor air temperatures.
- Protection against supplying air to rooms at excessively low or high temperatures.

Conditions for Safe Use

- The electrical installation in which the unit operates should be protected with an S191 16C circuit breaker.
- **Installation of the Heat Recovery Ventilation Unit must be performed by a qualified person with appropriate certifications, in accordance with the technical documentation and applicable regulations. Incorrect connection may damage the device or cause unforeseen consequences, including risks to user safety.**
- The device must be used for its intended purpose and within the operating parameters for which it was designed. Otherwise, the manufacturer is not liable for any resulting consequences.
- The HRVU must not be used in conditions where water vapor condensation occurs or where it is exposed to water or dust. It should not be installed in rooms such as laundries.
- The values of parameters available at the service level of the unit's controller must be adjusted to the specific installation type, considering all operating conditions. Incorrect parameter settings may lead to an emergency state. Modification of programmed parameters should only be performed by an authorized and trained person familiar with the rekuperator's operation.
- Under no circumstances should the rekuperator's structure be modified. Operation of a faulty device or one repaired by an unauthorized service is prohibited.
- **Turning off the rekuperator via the touchscreen does not disconnect it from the electrical network! Dangerous voltage may still be present at the terminals! Before performing installation work, the power supply must be disconnected, and it must be ensured that no dangerous voltage is present at the terminals or wires.**
- Connecting mains voltage to the digital inputs, analog outputs, or transmission connectors will damage the controller and poses a risk of electric shock.

Heat Recovery Ventilation Units with Counterflow Heat Exchangers

The Reversus and Flat ventilation units are designed primarily for installation in single-family homes. Their compact design and intuitive control panel make them user-friendly devices.

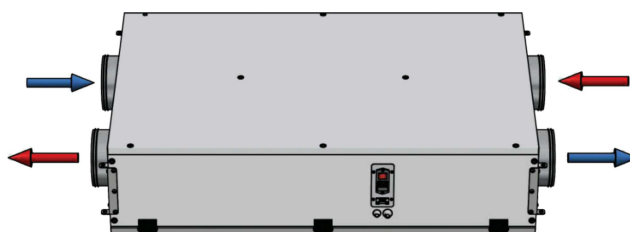
The Reversus and Flat rekuperators use counterflow heat exchangers for heat recovery, ensuring excellent thermal efficiency while maintaining moderate airflow resistance. An intelligent anti-freeze system for the heat exchanger strikes a balance between operating costs and heat recovery efficiency.



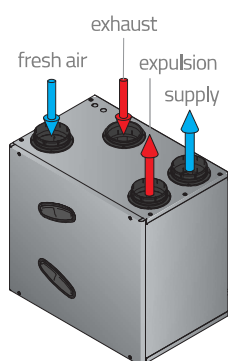
Our rekuperators utilize a counterflow heat exchanger and forced air circulation driven by two EC (electronically commutated) motor fans. The operator panel allows control of the fan speed, thereby adjusting the intensity of air exchange. It offers smooth speed adjustment, operation in predefined special modes, or complete fan shutdown. The panel also displays the current temperature at its installation location and enables programming of the unit's operating schedules.

The heat exchanger in the unit recovers thermal energy from the exhaust air and transfers it to the incoming outdoor air.

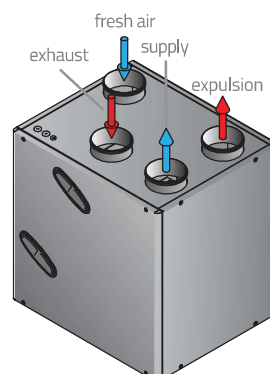
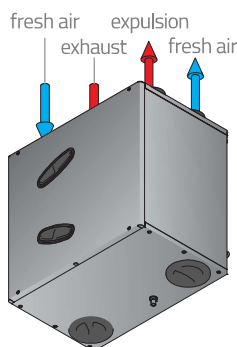
Sample wiring diagrams for connecting ventilation ducts to heat recovery units.
All options are available in the datasheets of individual device models and on the aerovent.pl website.



Wiring diagram for connecting ventilation ducts to the Flat 350 and Flat 550 heat recovery units. Standard execution.



Connecting all wires from the top of the recuperator.
Default variant.



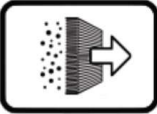




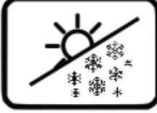


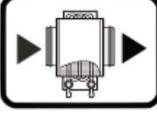


Wiring diagram for connecting ventilation ducts to the Reversus 600 heat recovery unit.

The ventilation unit is equipped with a heat exchanger bypass, which allows for the intake of fresh air while limiting the heat exchange process. Its use is particularly justified during the summer, when combined with the additional use of a ground heat exchanger, commonly referred to as GWC. The air, cooled in the GWC, is supplied directly to the house without being heated by the warm air stream blown out of the house. During the winter, the air passing through the GWC is pre-heated from the external negative temperatures to the ground temperature. This way, we save the energy needed to heat the house. The bypass is controlled automatically based on the set desired temperature or manually from the menu.

The controller inside the unit includes an automatic air temperature control for the air drawn from the outside and activates the anti-freeze system if necessary. This is to prevent the situation where the outside air, at negative temperatures, could freeze the moisture being expelled from the room in the heat exchanger. The anti-freeze system utilizes changes in fan speeds or the GWC (if installed).

Functions of Reversus and Flat Ventilation Units

		Smooth fan speed adjustment
		Filter replacement reminder
		Scheduled or manual operation
		Special modes: party, fireplace, ventilation
		Heat exchanger bypass
		GWC (Ground Heat Exchanger) operation control (optional)
		Summer/winter operating mode
		Air quality sensor support (humidity, CO2)
		Integration with home alarm system
		Ability to control additional devices

Technical Data of Reversus Heat Recovery Ventilation Unit

Description	200	300	450	600	650	1300
Catalog number for standard counterflow exchanger version	R200	R300	R450	R600	R650	R1300
Catalog number for enthalpic counterflow exchanger version	R200E	R300E	R450E	R600E	R650E	R1300E
Capacity at 150 Pa pressure [m ³ /h]	200	295	430	580	650	1300
Available pressure [Pa]	150	150	150	150	150	150
Heat recovery efficiency per EN13141-7	84,5	86,1	83,1	83,6	82,7	81,8
Maximum heat recovery efficiency [%]	92	95	95	96	95	95
Noise level per ISO 3747 [dB] ISO 3747	57	47	47	52	61	70
Weight [kg]	35,6	43	45	45	85	139

The calculations of thermal efficiency for heat recovery units for balanced airflows at temperatures of 5/20°C and relative humidity of 72/2% are provided according to the environmental standards 13141-7.

Electrical Parameters of Reversus Heat Recovery Ventilation Unit

MODEL	ELECTRICAL PARAMETERS OF THE FANS					
	Power [W]	Supply	Max Current [A]	Insulation class	Supply	Max Current [A]
Reversus 200	2 x 55	230 V, 50/60 Hz 1F	2 x 0,46	IP 54	230 V, 50/60 Hz 1F	1,1
Reversus 300	2 x 85	230 V, 50/60 Hz 1F	2 x 0,75	IP 54	230 V, 50/60 Hz 1F	1,6
Reversus 450	2 x 170	230 V, 50/60 Hz 1F	2 x 1,65	IP 54	230 V, 50/60 Hz 1F	3,5
Reversus 600	2 x 170	230 V, 50/60 Hz 1F	2 x 1,65	IP 54	230 V, 50/60 Hz 1F	3,5
Reversus 650	2 x 170	230 V, 50/60 Hz 1F	2 x 1,65	IP 54	230 V, 50/60 Hz 1F	3,5
Reversus 1300	2 x	230 V, 50/60 Hz 1F	2 x	IP 54	230 V, 50/60 Hz 1F	6,0

Technical Data of FLAT Heat Recovery Ventilation Unit

Description	150	200	350	550
Catalog number for standard counterflow exchanger version	F150	F200	F350	F550
Catalog number for enthalpic counterflow exchanger version	F150E	F200E	F350E	F550E
Capacity at 150 Pa pressure [m ³ /h]	150	195	370	560
Available pressure [Pa]	150	150	150	150
Heat recovery efficiency per EN13141-7	84,8	82,8	82,8	82,8
Maximum heat recovery efficiency [%]	89	89	95	94
Noise level per ISO 3747 [dB] ISO 3747	58,9	62	67,3	70,7
Weight [kg]	31	42	62	62

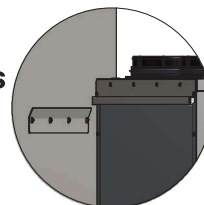
The calculations of thermal efficiency for heat recovery units for balanced airflows at temperatures of 5/20°C and relative humidity of 72/2% are provided according to the environmental standards 13141-7.

Electrical Parameters of FLAT Heat Recovery Ventilation Unit

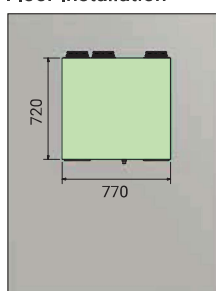
MODEL	ELECTRICAL PARAMETERS OF THE FANS					
	Power [W]	Supply	Max Current [A]	Insulation class	Supply	Max Current [A]
FLAT 150	2 x 27	230 V, 50/60 Hz 1F	2 x 0,27	IP 44	230 V, 50/60 Hz 1F	0,6
FLAT 200	2 x 50	230 V, 50/60 Hz 1F	2 x 0,46	IP 44	230 V, 50/60 Hz 1F	1,1
FLAT 350	2 x 85	230 V, 50/60 Hz 1F	2 x 0,75	IP 54	230 V, 50/60 Hz 1F	1,6
FLAT 550	2 x 170	230 V, 50/60 Hz 1F	2 x 1,65	IP 54	230 V, 50/60 Hz 1F	3,5

Installation conditions for Reversus heat recovery units

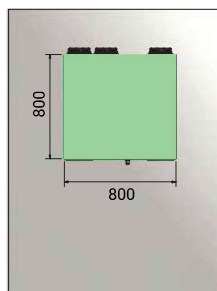
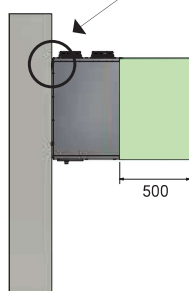
 The minimum space required for the maintenance of the heat recovery unit is given in mm.



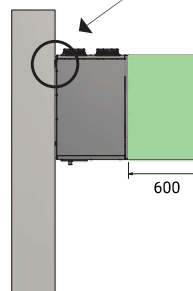
Floor Installation



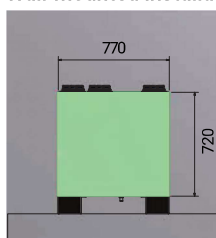
Reversus R300(E) i R450(E)



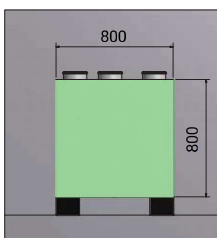
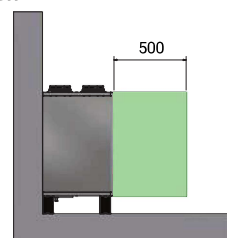
Reversus R600(E)



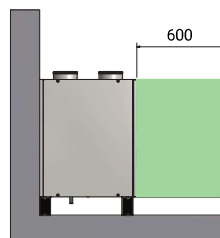
Wall-mounted installation



Reversus R300(E) i R450(E)



Reversus R600(E) i R650(E)



The ventilation duct connection ports with a diameter of $\varnothing 150$ mm should be connected to the ventilation system according to the markings in this manual and on the unit's enclosure.

The condensate drain port should be connected to the sewage system. It is recommended to install a siphon. The siphon should be installed in the warm part of the house.

The control panel should be connected to the unit using a 4x0.5 mm² cable. Follow the markings next to the terminal blocks on the panel and the controller inside the unit. See the section on panel installation.

The electrical connection of the unit should be made using the factory-supplied cable for the electrical socket ~230 V, equipped with a grounding pin. For Reversus R650(E) units, it should be connected directly to the building's electrical network by a qualified installer.

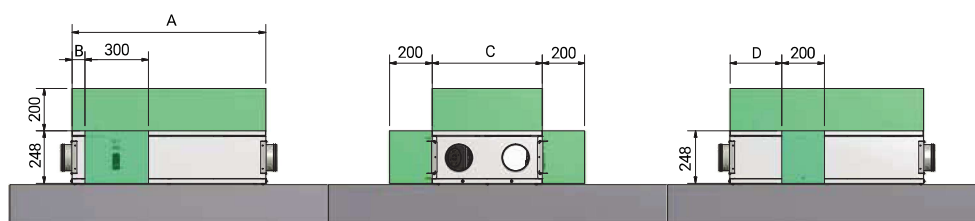


Do not connect the unit to the electrical installation without grounding!

The unit should not be installed in rooms with high humidity, such as laundry rooms. It is recommended that the unit has a separate protection in the form of a S191 16C overcurrent fuse.

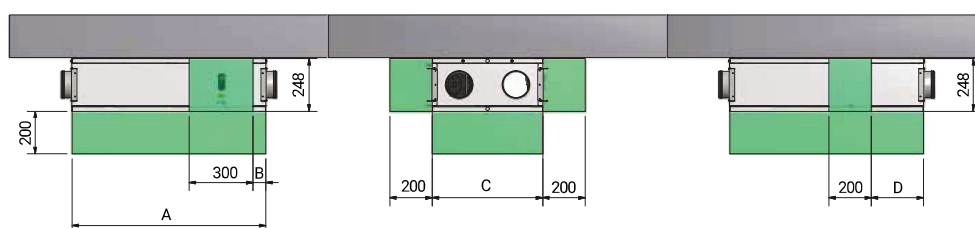
Installation conditions for FLAT heat recovery units

Floor Installation Model FLAT 150, FLAT 200



Model	A [mm]	B [mm]	C [mm]	D [mm]
FLAT 150	912	60	520	245
FLAT 100	1234	0	580	275

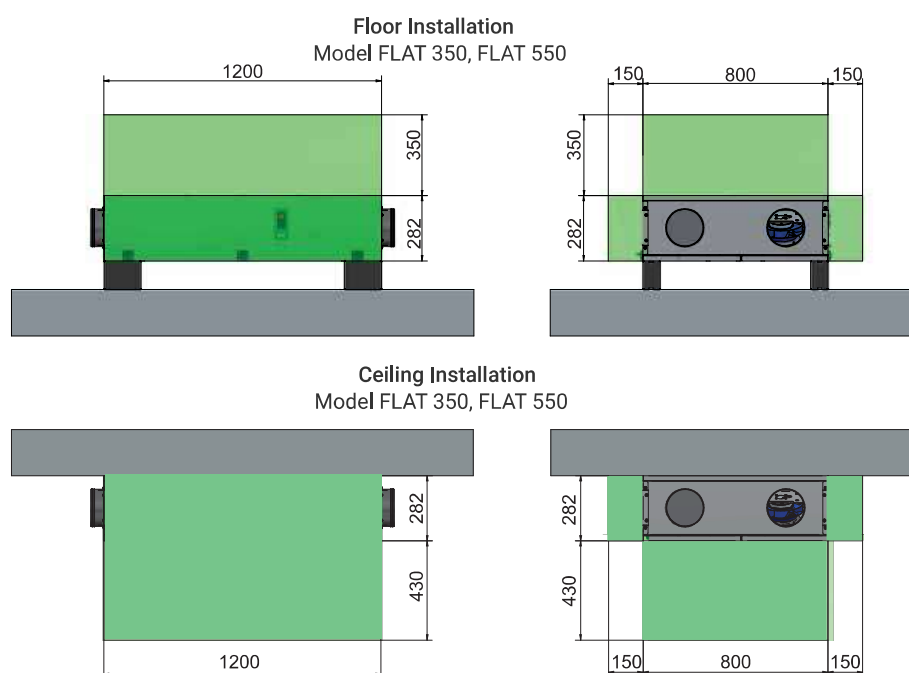
Ceiling Installation Model FLAT 150, FLAT 200



Model	A [mm]	B [mm]	C [mm]	D [mm]
FLAT 150	912	60	520	245
FLAT 100	1234	0	580	275

 The minimum space required for the maintenance of the heat recovery unit is provided in mm.

Installation conditions for FLAT heat recovery units



The minimum space required for the maintenance of the heat recovery unit is provided in mm.

The connection spigots for the ventilation ducts with a diameter of $\varnothing 150$ mm should be connected to the ventilation system according to the markings in this manual and on the unit's casing.

Note! FLAT units, when positioned on the floor, should not be inverted. That is, the partition wall should always be at the bottom of the unit. In this case, access to the filters is obtained by unscrewing the top cover.

The condensate drainage pipe should be connected to the sewage system. A siphon must be installed. It is recommended to install the siphon in the warm part of the house.

The display panel should be connected to the unit using a 4x0.5 mm² cable, according to the markings near the terminal blocks on the panel and the controller inside the unit. See the section on panel installation.

The electrical connection of the unit should be made using the factory-supplied cable for the electrical socket ~230V, equipped with a grounding pin, or directly to the building's electrical network.



Do not connect the unit to the electrical installation without grounding!
The unit should not be installed in rooms with high humidity, such as laundry rooms.
It is recommended that the unit have separate protection in the form of an overcurrent fuse of type S191 16C.

Technical Data of the HRVU Controller

Dane techniczne sterownika

	Executive Module (Module A)	Executive Module (Module B)
Supply	230 VAC, 50 Hz	230 VAC, 50 Hz
Current Consumption	40 mA	20 mA
Software	Class A	Class A
Communication	2× communication ports (RS485, Modbus RTU protocol), 4× expansion ports	
Temperature Measurement Range	-40 to +80°C, CT10 sensors (NTC 10K)	
Outputs	3× relay outputs, max 3A; 3× analog outputs 0-10V / 1× PWM	4× relay outputs, max 3A; 4× analog outputs 0-10V / 2× PWM
Inputs	4× binary inputs; 1× analog input	2× binary inputs; 1× analog input
Operating Conditions	0...50°C, 0...100% RH (without condensation), closed rooms with low dust levels	
Additional Extensions	<p>The possibility of connecting an expansion module.</p> <p>The possibility of directly connecting ecoPRESS-01 1N1 pressure difference transducers (± 500 Pa, accuracy $\pm 3\%$), SRHT 1N1 humidity transducers (relative humidity and temperature sensor).</p> <p>The possibility of connecting pressure difference transducers (0 – 10 V / RS485), humidity, CO₂, and SVOC transducers (0 – 10 V).</p>	

The controller allows for customizable output configurations depending on the needs of the ventilation system used. Below is a description of the standard configuration.

Actuator module (Module A):

Relay outputs (potential-free):

OUT1

OUT2 Pre-heater*

OUT3A Secondary heater*

** With the possibility of reprogramming the functions*

Analog outputs (0 – 10 V / PWM):

AOUT1 Supply fan

AOUT2 Exhaust fan

AOUT 3 Free

Wejścia dwustanowe:

DIN1 Boost1

DIN2 Boost2

DIN3 Alarm unit

DIN4 Free

Analog inputs (0 – 10 V):

AIN1 Analog CO2 sensor

Analog inputs (NTC 10K):

T1 Supply air temperature

T2 Exhaust air temperature

T3 Intake air temperature

T4 Discharge air temperature

Transmission channels:

COM2 – panel

COM3 – RS485

Actuator module (Module B):

Relay outputs

(OUT11–Potential, REL16...14-Potential-free)

OUT11 (Any configuration) pre-heater, water
REL16 secondary heater, electric secondary heater,
compressor, cooler, bypass damper, rotary
REL15 heat exchanger, mixing chamber actuator,
REL14 supply and exhaust fans, RUN and FAULT
signals.

Analog outputs (0 – 10 V / PWM):

AOUT14 Free

AOUT15 Free

PWM12 Free

PWM12 Free

Wejścia dwustanowe:

DIN16 (Any configuration)

DIN17

Analog inputs (0 – 10 V):

AIN12 (Any configuration) Humidity sensor / CO2
sensor / Volatile Organic Compounds (VOC)
sensor (PM2.5 or PM10)

Analog inputs (NTC 10K):

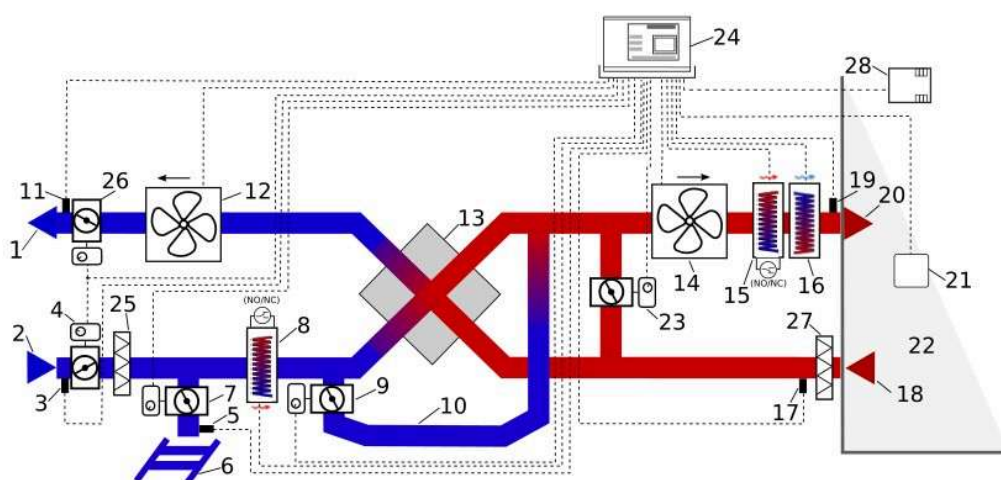
T15 (Any configuration): CWC sensor, post-heat
recovery sensor, post-heater sensor

T16

Automation diagram



The following example diagrams do not replace the ventilation system installation design. They are for illustrative purposes only!



Example ventilation diagram with a cross-flow (or counterflow) heat exchanger, secondary Freon or water cooler, and primary and secondary electric heaters.

Description:

1 – Exhaust, 2 – Intake, 3 – Intake temperature sensor / external temperature sensor, 4 – Intake damper actuator, 5 – GWC temperature sensor, 6 – GWC (ground heat exchanger), 7 – GWC damper actuator, 8 – Electric or water pre-heater with thermostat, 9 – Bypass damper actuator, 10 – Bypass, 11 – Exhaust temperature sensor, 12 – Exhaust fan, 13 – Cross-flow, counterflow, or rotary heat exchanger, 14 – Supply fan, 15 – Electric or water secondary heater with thermostat, 16 – Secondary Freon or water cooler with thermostat, 17 – Exhaust temperature sensor (from the room), 18 – Exhaust, 19 – Supply temperature sensor, 20 – Supply, 21 – Control panel, 22 – Ventilated rooms, 23 – Mixing chamber damper actuator, 24 – Controller module, 25 – Intake filter, 26 – Exhaust damper actuator, 27 – Exhaust filter, 28 – Air quality sensor.

Modbus communication

Modbus RTU protocol

The controller has a built-in software module that enables communication using the Modbus RTU protocol. This protocol allows reading a register/group of registers containing the current parameter values and writing values to selected parameters. The controller supports three Modbus commands: the read command **0x03**, the single register modification command **0x06**, and the group register modification command **0x10**. Communication is carried out through the isolated port of the controller (COM3), which is a slave-type port.



Communication is carried out in the RS485 standard. To ensure reliable transmission, it is mandatory to connect the signal wires D+ and D- to the corresponding ports of the master device and the slave controller.

Communication settings

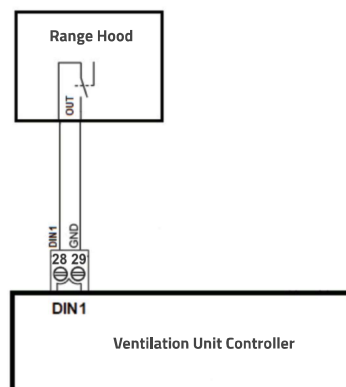
To ensure proper communication, the following parameters must be set:

- Modbus Address – the address of the controller on the Modbus bus.
- Transmission Speed – the desired Modbus transmission speed; options: 9600, 19200, or 115200.
- Number of Stop Bits – the number of bits that end the Modbus frame; options: 1 stop bit or 2 stop bits.
- Parity – the ability to check for errors by comparing the frame's sum with an additional parity bit; options: none (no parity checking).
- Modbus Activation – allows communication using the Modbus protocol; setting this parameter to "No" will block communication via Modbus.
- Parameter Editing – allows editing parameters using Modbus; setting this parameter to "No" will block modification commands 0x06 and 0x10.
- Control of the Unit – allows control via Modbus; setting this parameter to "No" will prevent controlling the regulator using the protocol.

The Modbus register table is available upon request.

Connecting the range hood

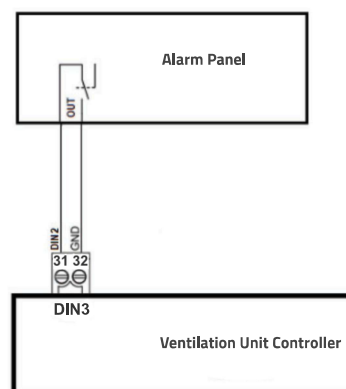
The recuperator can change the preset fan speed after receiving a signal on the DIN1 inputs (terminals 28, 29) or DIN2 inputs (terminals 29, 30). The input responds to a signal from contact-type outputs. This can be a bistable or astable switch. The override remains active until the normal state is restored at the input. By default, the normal state is an open circuit. Connections should be made using a two-core 0.5mm² cable with a maximum length of 30 meters. The cable cores should be prepared according to the instructions in the "Connecting devices to the control board" section, using ferrule terminals. The cable should be routed through the cable gland in the recuperator housing.



Connecting the alarm control panel

The alarm control panel signals the recuperator when the alarm system is armed. Upon receiving this information, the recuperator switches to the operating mode defined by the user for the alarm system. The alarm control panel's contact-type information output should be connected to the DIN3 input (terminals 31-32).

By default, the normal state (alarm system disarmed) is an open circuit, while the armed state is a closed circuit. Connections should be made using a two-core cable. The cable cores should be prepared according to the instructions in the "Connecting devices to the control board" section, using ferrule terminals. The cable should be routed through the cable gland in the recuperator housing and secured by tightening the nut.



Connecting the GWC Damper

The unit can control a three-way GWC damper.

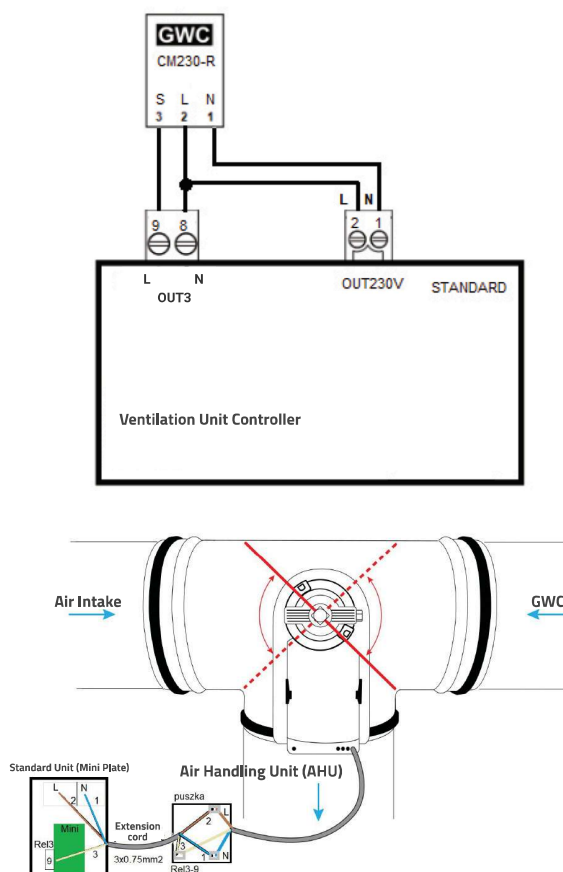
The diagram shows the connection method for the damper offered by the manufacturer.



WARNING! The actuator used in the damper is powered and controlled by 230 V AC. The connection must be carried out by a qualified person!

Do not connect any devices other than the original one approved by the manufacturer.

To connect the damper to the controller, use a $3 \times 1 \text{ mm}^2$ cable. The cable cores should be terminated according to the instructions in the chapter "Connecting devices to the control board," using ferrule terminals.



Ventilation unit control panel

The SCP V control panel with built-in BT communication, designed for wall mounting, allows control of small and medium ventilation units, also via the ecoNEXT mobile app from a smartphone with BT communication functionality (the app extends the panel's features). The SCP V panel allows you to set the unit's operating mode (OFF, Auto, Schedule, Manual mode) and control the fans in manual mode. It enables reading the current operational status of the unit: fan settings, operating mode, and signals the need to replace filters and/or perform service intervention due to an ongoing alarm state.

Communication: RS485 interface (ModBus RTU protocol), WIFI, BT.

Application: Small and medium ventilation/recuperation units

Usage Locations: Residential and commercial buildings.

Built-in Sensors: Temperature sensor, relative humidity sensor.

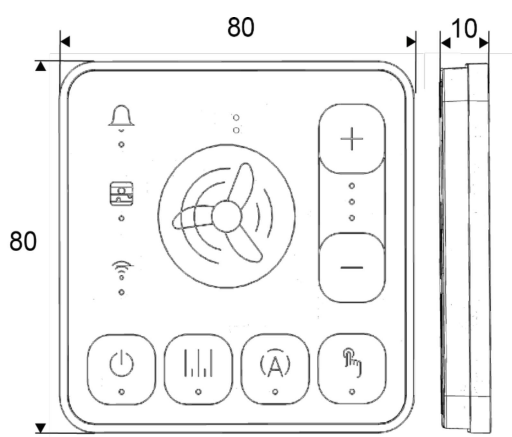


Technical data of the panel

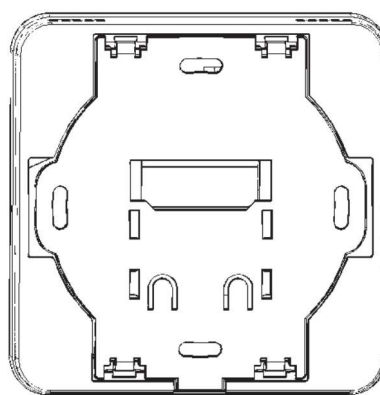
Power supply	5...12 VDC
Current consumption	20 mA (at 12 VDC power supply)
Komunikacja	RS485 (ModBus RTU protocol), WIFI, BT
Communication	PLUM software, class A
Signaling	LED indicators
Temperature measurement range / accuracy	5...35°C / ±0.5°C
Temperature hysteresis	0.2...5°C
Humidity measurement range / accuracy	0...100% RH, no condensation / ±2%
Storage temperature	0...65°C
Dimensions	80 mm x 80 mm x 10 mm
Degree of protection	IP 20
Weight	0.1 kg
Operating conditions	0...50°C, 0...100% RH (no condensation), closed rooms with low dust.
Mounting method	Wall-mounted
Terminals	Self-clamping connector. Wire cross-section: 0.25...1.5 mm².

Specification

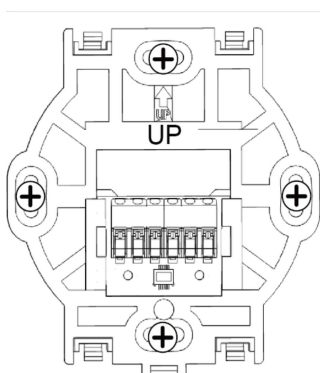
Dimensions



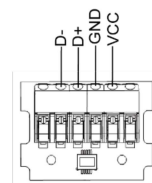
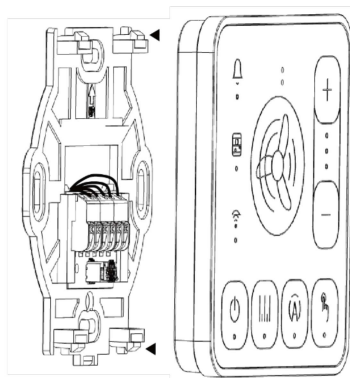
Mounting frame (back of the panel)



Wall mounting (cable routed in-wall)



Clamps



Installation of the room panel

The panel is intended for wall mounting only in dry rooms. The panel should not be used in conditions where water vapor condensation occurs. Protect it from exposure to water. **The panel installation should follow the guidelines below:**

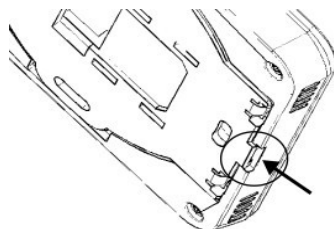
1. Disconnect the mounting frame from the rear housing of the panel. The frame is attached to the panel housing with snap fasteners. A flat screwdriver can be used to detach the frame.
2. Connect the wires of the transmission cable between the panel and the regulator to the self-clamping connector on the panel. The cable connecting the panel to the regulator should be embedded in the wall.
3. The cable connecting the panel to the regulator must not run together with the building's electrical network cables. Additionally, the cable should not pass near devices emitting strong electromagnetic fields.
4. Drill holes in the wall and use screws to fix the mounting frame in the chosen location on the wall, ensuring the correct orientation (UP). Finally, attach the panel to the mounting frame using the snap fasteners.

After powering on the regulator, the LEDs of the buttons will light up in the following sequence:



That is, software loading. The loading takes about 10 seconds. If this time is significantly longer, check the correct connection of the D+ and D- wires of the transmission cable connecting the panel to the controller.

Disassembly of the panel



To disconnect the panel from the mounting surface, insert a flat object, such as a screwdriver, into the indicated gap of the mounting frame. This will release the mounting frame's clips and allow you to detach the panel.

Replacement of the room panel

If it is necessary to replace the room panel, check the compatibility of the new panel's software with the software of the regulator module. Compatibility is ensured if the first program number in the panel and module is the same.



The software versions of the panel and the regulator module can be read from the dedicated parameters found in the "Software Versions" section of the information menu.



The lack of compatibility between the regulator module's software and the panel's software may cause unforeseen errors. The manufacturer is not responsible for failures resulting from the use of incompatible software by the end customer.

Replacement of the actuator module

The requirements are similar to those for the replacement of the control panel.

The load capacity of the regulator's outputs

Max. rated current	6 (6) A		
	OUT1	3(3) A	total max. 6(6) A 230 V
	OUT2	3(3) A	
	OUT3A	3(3) A	
	OUT3B	3(3) A	
	OUT3C	3(3) A	
	OUT-230 V	6(6) A	
	OUT11	3(3) A	230V~
	REL14	3(3) A	
	REL15	3(3) A	
	REL16	3(3) A	

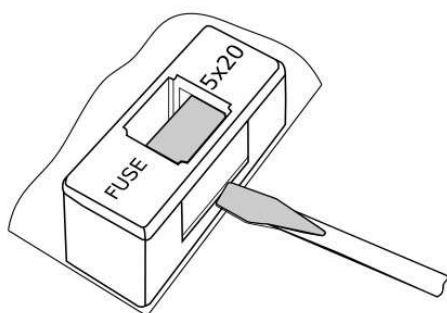
Fuse replacement



Before replacing the fuse, disconnect the electrical power from the controller.

The fuses for the output circuits should be selected based on the existing load. The standard current for the main fuse F1 is 6.3 A – a 250 VAC, slow-blow, porcelain fuse of 5 mm x 20 mm size should be used. A smaller fuse F1 may be used if the total load of the circuits is lower.

To remove fuse F1, use a flat screwdriver to lift the fuse holder and slide the fuse out. The device also has an additional fuse F2. A miniature, slow-blow fuse of 630 mA / 250 VAC, TR5, compliant with IEC 60127 standard (e.g., made by Schurter) must be used.



Fuse Replacement F1

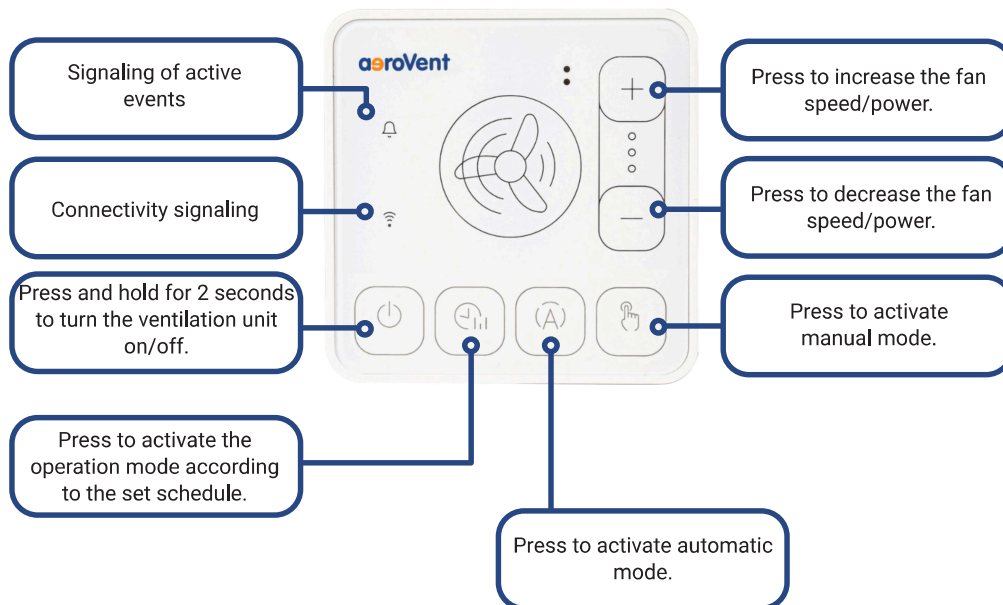


Fuse Replacement F2

User Manual for the SCP V Room Panel

A simple ventilation control panel with a built-in BT/WiFi module.

The basic operation of the controller is done by touching the selected function button on the SCP V room panel. The button symbols and LED signaling indicate:





Press and hold the button for 2 seconds to turn the ventilation unit on/off. The lit LED indicates the correct operation of the unit. When the LED is off, it means the ventilation unit is turned off. The operation of the powered unit is also indicated by the LEDs, such as the selected fan speed, automatic mode, schedule mode, or manual mode.



Press the button to activate the ventilation unit's operation according to the set time schedule. The ventilation unit switches to time schedule mode. The lit LED indicates that the schedule mode is active. If the time schedule is not set or its operation is not enabled, the LED will start blinking.



Press the button to switch the ventilation unit to automatic mode. The lit LED indicates that the mode is active.



Press the button to switch the ventilation unit to manual mode, allowing you to set the fan speed/power. The lit LED indicates that the mode is active.



Press the + or - button to increase or decrease the fan speed/power. The buttons only work when the manual mode is active.



Indication of active events from the ventilation unit.



Indication of an active connection to the online service or via BT.

Air filters

The ventilation unit is equipped with air filters for the air supplied into the room and the air extracted outside. The air filters protect the unit's heat exchanger from contamination, thereby preventing a decrease in the unit's energy efficiency. The supply air filter additionally enhances the hygiene of the supplied air, thus increasing the comfort of staying in the rooms.

The device reminds you to replace the filters after a set operating time. By default, this is 180 days. If the filters are not replaced within the next 90 days, the device will enter an emergency operation mode.

It is recommended to replace the filters at least every six months with filters of the same technical parameters.

To replace the filter, you should:

1. Turn off the ventilation unit from the control panel.
2. Disconnect the ventilation unit's power cord from the power outlet.
3. Wait for at least 2 minutes.
4. Access to the filters, depending on the heat recovery unit, is possible through the plugs in the device housing (Reversus) or by opening the inspection door (Flat - ceiling mounted) or by opening the top housing (Flat - floor mounted).
5. The filters are located in the guides; slide them out as shown in the diagrams below. Remember the direction markings in the form of arrows printed on the filters. The filters in the Reversus 650 model are two-piece. After removing the first part, slide the second part of the filter out on the guides.
6. Before inserting the new filter, it is recommended to clean the guides of any dirt.
7. Insert the new filters, paying attention to the direction markings in the form of arrows.
8. After completing the physical filter replacement, confirm this operation from the ecoNext or econetCloud application.
9. In the used application, connect to the installation and select the "Ventilation controller" tile.
10. In the user menu, select "Filters," and in the "Force filter replacement procedure" option, select YES, and then Confirm. (This is necessary to reset the filter operating counters.)
11. Wait a moment for the "Filter replacement procedure" menu item to appear.
12. In the "Supply/Extract filter - class" positions, declare the class of the installed new filters if it is different from the used ones.
13. In the "Have the filters been replaced?" position, select YES, and then Confirm.
14. In the "Finish filter replacement procedure" position, select YES, and then Confirm.
15. The replacement is complete.

How to replace filters in Reversus heat recovery units



Reversus 200, 300, 450, 600



Reversus 650



How to replace filters in FLAT heat recovery units

Floor-mounted heat recovery unit installation case



How to replace filters in FLAT heat recovery units

Ceiling-mounted heat recovery unit installation



Filter replacement in the FLAT150 i FLAT200 model



Filter replacement in the FLAT350 i FLAT550 model

Instruction for the ecoNEXT mobile application

For aeroVent HRVU based on the Mini3.x board with the SCP panel

The Heat Recovery Ventilation Unit is operated using the ecoNEXT mobile application for Android and iOS systems (Note: minimum system version required: Android 8.0, iOS 15.0).

The application can be downloaded from Google Play and the App Store using the QR codes below.



ecoNEXT in App Store



ecoNEXT in Google Play



The installed application on the mobile device requires a constant Bluetooth (BT) wireless connection with the SCP_V1 room panel. The room panel provides only basic operation of the controller but allows for configuration and connection to a selected WiFi network. Connecting to a WiFi network enables full online operation and configuration of the controller via the website www.econetcloud.eu.



Operation via the room panel

Basic controller operation is performed by touching the selected function button on the SCP room panel. The button symbols and LED signaling indicate:



- (Power Icon) - Indicates unit off (LED off) or on (LED on for 5 seconds). When the unit is on, operation is also signaled by LEDs, e.g., selected fan speed, automatic mode, schedule mode, or manual mode.



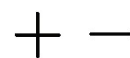
- (Schedule Icon) - Activates (LED on) the ventilation unit's operation according to a set time schedule. If no schedule is set or enabled, the button's LED blinks. When schedule mode is active, the manual mode LED is off, and vice versa.



- (Auto Icon) - Activates (LED on) automatic operation mode.



- (Manual Icon) - Activates (LED on) manual operation mode, allowing fan speed/power adjustment.



- (Up/Down Arrows) - Increases or decreases fan speed/power. This function works only in manual mode.



- (Warning Icon) - Signals active events from the ventilation unit.





- (Connection Icon) - Indicates an active connection to the online service or via BT.

Wi-Fi Network Connection Configuration






Wi-Fi connection configuration should follow these guidelines:

1. Reset the account, then log in to the online service and select the "Add" parameter. Enter a custom installation name and the controller's serial number, which can be read in the app during the installation setup process.

2. Press and hold the  button on the room panel for about 4 seconds to enable the BT function.

3. Wait a few seconds until the panel restarts and the BT function activates—the  LED will flash rapidly.

4. Install and launch the dedicated mobile application on your mobile device.

5. In the mobile app, search for the controller to connect and confirm the connection.
6. In the app's WiFi Settings parameter, configure the WiFi network connection by entering the password in the Manual WiFi Settings parameter or use the process by clicking "Add ecoNET CLOUD Installation" (in this case, proceed to step 10).
7. Generate a token by going to the app's parameter: Retrieve ecoCLOUD Token.
8. Enter the controller's serial number and the generated token into the appropriate fields on the econetcloud.eu website.
9. After configuring WiFi in the mobile app, press and hold the panel button  again for about 4 seconds.
10. Wait a few seconds until the panel restarts, disabling BT and enabling WiFi, where:
 - If the  LED is steadily lit, it indicates an active WiFi connection and connection to the online service.
 - If the  LED is off, there is no WiFi connection.
 - If the  LED blinks (slower than with active BT), it indicates a WiFi connection but no connection to the online service.
11. Return to the "Add Installation" parameter in the online service (the first window may not load), and from the left sidebar, select "Settings." 
12. Press "+" to add the controller to the installation (the controller should already be detected and visible). Successful addition will display configuration and operation tiles for the controller on the online service's main page.

Operation Description

Full configuration and operation of the ventilation unit are available via the mobile app and the online service.

Controller Operating Modes

Modes in which the controller regulates ventilation:

- ****Operation**** - The controller adjusts ventilation based on user settings.
- ****Operation-Heating**** - Despite low outdoor air temperatures, the controller maintains the set room temperature by first selecting the highest-temperature air source and then activating the secondary heater if conditions are met.

- ****Operation-Cooling**** - Despite high outdoor air temperatures, the controller maintains the set room temperature by first selecting the lowest-temperature air source and then activating the cooler if conditions are met.
- ****Anti-Freeze**** - The controller prevents the heat exchanger from freezing by adjusting fan speeds, activating the primary heater, or opening the bypass damper.
- ****Standby**** - The controller stops the ventilation unit, with only protective functions active.
- ****Heat Exchanger Cleaning**** - The controller activates a cleaning mode, alternately running the fans at maximum power.
- ****Heat Exchanger Drainage**** - The controller activates the drainage function, pausing fan operation.
- ****Heater Cooling**** - The controller maintains supply fan operation for a set time to cool electric heaters.
- ****Ventilation**** - The controller activates the ventilation function.

Device Operating Modes

Settings related to the controller's operating modes, determining how regulation occurs:

- ****Main Mode**** - Sets the unit's operating mode. Selecting Standby stops the rekuperator, leaving only protective functions active. This mode can prevent unpleasant outdoor odors from entering. Users can also select one of the three fan speed levels (1-3), customizable by the user.
- ****Timed Mode (Timed Operating State)**** - Activates one of the additional operating modes:
 - Off: Disables timed mode.
 - Exit Mode: Pauses the ventilation unit, useful when leaving the room.
 - Party Mode: Increases fan output and adjusts the target temperature, ideal for larger gatherings.
 - Ventilation Mode: Adjusts supply fan output while disabling the exhaust fan, useful for rapid air exchange.
- ****Summer/Winter (Summer/Winter Mode)**** - Sets the control mechanism:
 - Winter Mode: Disables the cooler and AUTO bypass opening.
 - Summer Mode: Disables heaters.
 - Auto Mode: Selects the active mechanism based on outdoor temperature settings.
 - Ventilation: Disables both heaters and coolers.

- **Fireplace** (Fireplace function operation) – enables activation of the fireplace function. If this function is activated, the control of the exhaust fan will depend on the supply fan speed and the speed difference set in the Speed parameter.
- **Schedules** – allows the controller to operate according to user-defined schedules.
- **Mode setting** – determines the mode in which the regulation will take place. The settings are analogous to the Summer/Winter options in the Unit Operating Mode menu.
- **Enabling winter mode** – the temperature value below which, when the auto mode is active, the winter mode will be activated.
- **Summer mode activation hysteresis** – the hysteresis value for mode switching. If the auto mode is active and the outdoor temperature rises above the "Enable winter mode" temperature + "Summer mode activation hysteresis," the summer mode will be activated.

Operating condition settings

Settings related to operating modes, time-based modes, and additional operating conditions of the controller, during which the control state of the ventilation unit is changed for a specified period of time.

- **Time-based mode settings** – allows for defining time-based modes. For the Ventilation mode, it is possible to specify the duration of the mode with the Duration parameter and the exhaust fan control with the Speed parameter. For the Party mode – the duration with the Duration parameter, the target temperature with the Comfort Temperature parameter, and the fan control: supply fan with the Supply parameter and exhaust fan with the Exhaust parameter. For the Away mode, it is possible to specify its duration with the Duration parameter.
- **Schedule settings** – setting up time schedules.

GHE (Ground Heat Exchanger) settings

The controller is adapted to manage a ground heat exchanger (GHE) if it is part of the ventilation system. It utilizes the ground temperature, which for a significant part of the year is more favorable than the outdoor air temperature.

The GHE Settings parameter allows you to select the operating mode for the ground heat exchanger (GHE):

- **Close** – the controller turns off the glycol pump or closes the damper, cutting off airflow through the GHE.
- **Open** – the controller turns on the glycol pump or opens the air damper on the GHE duct.
- **Auto** – the controller activates or deactivates the GHE based on user-defined settings, outdoor temperature, and GHE temperature. Activation can occur in two modes: heating mode – winter activation, and cooling mode – summer activation. Winter GHE activation will occur if the outdoor temperature drops below the value of the Winter Opening Temp. parameter and, at the same time, the GHE sensor temperature is higher than the outdoor temperature sensor reading. Summer opening will occur if the outdoor temperature rises above the value of the Summer Opening Temp. parameter and, simultaneously, the GHE sensor temperature is lower than the outdoor temperature sensor reading.



The outdoor temperature value is measured by a temperature sensor installed at the intake inlet.

In the event that the GHE temperature sensor is not connected or its operation is disabled from the installer menu, the GHE regulation will depend solely on the readings from the outdoor temperature sensor.

Additional regulation settings for the GHE (Ground Heat Exchanger).

- Maximum opening time – the maximum time the GHE damper remains open. After this time, the GHE regeneration procedure will be initiated.
- Regeneration time – the duration of the GHE regeneration process. During regeneration, the GHE damper remains closed.
- Manual activation – manual initiation of regeneration without waiting for the temperature and time conditions to be met.

Bypass Operation

Contains settings related to the bypass, allowing selection of control type for the bypass damper of the cross-flow heat exchanger. The damper can be permanently open (Open option—no heat recovery or frosting risk), permanently closed (Closed option), or in Auto mode, where it opens based on specific conditions. When the bypass is open, indoor spaces can be cooled to the target temperature using cooler outdoor air.

Alarm System

Settings related to handling signals from the alarm system. Upon receiving a signal from the alarm system, the fan output changes:

- Alarm System Support - Enables or disables alarm system support. If enabled, the controller adjusts operation based on alarm settings upon receiving a signal.
- Logic State - Sets the digital input logic state: NO (normally open) or NC (normally closed).
- Unit Reaction - Defines the rekuperator's response to an alarm signal. If "Unit Shutdown" is selected, the device stops upon receiving the signal. Otherwise, fan output adjusts to values defined by Exhaust and Supply parameters.
- Ventilation - Enables or disables the ventilation function, active only with alarm system regulation enabled and "Unit Shutdown" disabled.

Ventilation Function Settings

- Exhaust Fan Speed, Supply Fan Speed - Sets fan output during ventilation.
- Ventilation Duration - Defines how long ventilation lasts.
- Cyclic Ventilation Interval - Defines the time between ventilation cycles.
- Secondary Heater Operation During Ventilation - Enables or disables secondary heater operation during ventilation.

Operating mode settings

Allows setting time schedules for the operation of the ventilation unit.



The programmed schedule operates based on internal memory and is not erased during a power outage.

Filter Replacement Procedure

The controller signals the need for filter replacement by displaying a persistent alarm on the screen.



Filter replacement can only be performed with the ventilation unit disconnected from the power supply.

The procedure for handling dirty filters depends on the controller configuration set by the installer. If the installer has enabled user filter replacement, follow the Filter Replacement Procedure and stop the ventilation unit after the alarm appears.

After the active replacement procedure alarm is displayed, disconnect the unit from the power supply and replace the filters. Upon restoring power, go to the Filter Replacement Procedure, select the class of the replaced filters (parameters: Supply Filter Class, Exhaust Filter Class), and confirm the replacement (parameters: Is Supply Filter Replaced?, Is Exhaust Filter Replaced?).

After confirming the replacement, go to Filters and use the parameter "Is Filter Replacement Completed?" to further confirm the process, which will clear the alarms and allow the ventilation unit to resume operation.

Filters can also be replaced before their service life expires or before the controller detects contamination. To do this, go to Filters › Force Filter Replacement Procedure and manually start the replacement process using the "Force Filter Replacement Procedure" parameter.



If the installer has not enabled user filter replacement, contact an installation service when the dirty filter alarm appears.

Repairs

Control Panel Replacement

When replacing the control panel, ensure its software is compatible with the controller module's software. Replacement should be performed by a trained service technician.

Controller Replacement

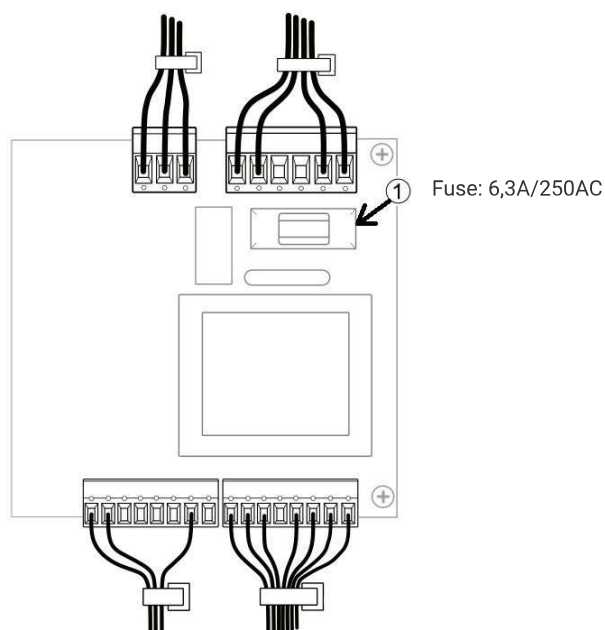
After replacing the controller, configure it according to the actual ventilation system and connected devices. Incorrect configuration may damage the controller module or connected devices. Replacement should be performed by a trained service technician.

Motor Replacement

Motors can only be replaced with identical ones used by the manufacturer. Replacement should be performed by an authorized service technician.

Mains Fuse Replacement

The fuse is located on the controller board inside the rekuperator housing. Use a slow-blow, ceramic 5 × 20 mm 6.3A/250VAC fuse. Replacement should be performed by an authorized service technician.



Cleaning, Maintenance, Disposal



Do not clean the device by spraying it with water.

Water entering the device may cause a fire, electric shock, or damage.

VENTILATION UNIT

Perform cleaning with the power cable disconnected.

The unit requires no special maintenance during use. External surfaces can be cleaned of dust using a dry, soft cloth.

Filters should be replaced at least every six months or more frequently if a noticeable reduction in airflow is observed. See also the "Air Filters" section.

EXTERNAL SURFACE AND CONTROL PANEL SCREEN MAINTENANCE

Clean the device with a soft, dry cloth.

Do not use flammable substances (e.g., benzene or solvents) or a wet cloth, as this may cause device issues.



Do not scratch the screen with nails or sharp objects, as this may cause scratches or damage.

ELECTRICAL CABLES

Cables can be cleaned with a soft, dry cloth.



Do not use a damaged power cord, plug, or loose electrical outlet, as this poses a risk of electric shock or fire.



Like any electrical device, a decommissioned ventilation unit may pose an environmental hazard and should not be disposed of with household waste.

Dispose of a decommissioned ventilation unit at an electronic waste collection point.

The manufacturer reserves the right to introduce changes, particularly in software, that may not be reflected in this operating manual.

