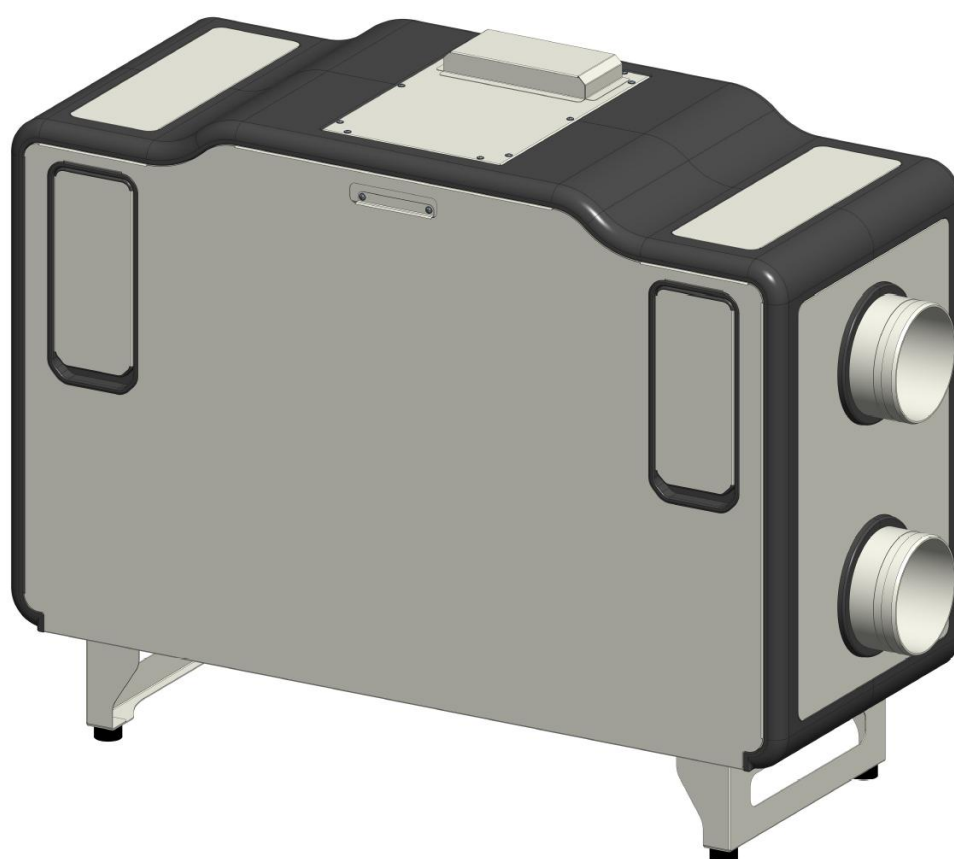




## Operation and Installation Manual



### Air handling unit with heat recovery **ARIUS 305 / 405 / 505 / 605**

*Air handling unit equipped with Aero AP ver.11 ventilation controller with AWENTA CONTROL ver.1 control panel*

*Applies to models:*

VAH305 VAH305CF VAH305E VAH305CFE VAH405 VAH405CF VAH405E VAH405CFE  
VAH505 VAH505CF VAH505E VAH505CFE VAH605 VAH605CF VAH605E VAH605CFE



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## 1. OPERATOR'S MANUAL

### 1. 1. IMPORTANT INFORMATION

Read the Operator's Manual carefully before installation or any other activity related to work with the unit! AWENTA takes not responsibility for any damage resulting from incorrect operation, non-intended use or unauthorised repairs or modifications of the product.

This installation manual is an essential part of the product and contains important technical information and instructions regarding the occupational safety. Carefully read the operation and installation manual and keep it available in a readily accessible place for future reference. The manual is also available at [www.awentapro.pl](http://www.awentapro.pl)

### Safety precautions:

- This product can be used by children at least 8 years old, by people with impaired physical and/or mental abilities, and by people without any experience in or understanding of the operation of the product, if supervised or instructed by a competent adult in the safe use of the product so that they understand the relevant operating risks. This product is not a toy and children should not play with it. Children should not be allowed to clean or maintain the product without supervision of an adult.
- The unit is intended for indoor electrical installation provided with means or devices having contact breaks at all poles, ensuring complete isolation under category III overvoltage conditions in accordance with the regulations for such installation. The device should be connected directly to an earthed 230 VAC mains socket.
- When installing and using the unit, it is mandatory to observe the provisions specified in this manual and all the applicable local and national building, electrical and technical standards.
- It is imperative to read all warnings in this manual and become familiar with the warning signs located on the air handling unit, as they contain information for your safety.
- Failure to follow the instructions and warnings contained in this manual may result in personal injury and damage to the unit.
- If the unit is handed over/sold etc. to another user, this manual must also be handed over.
- Assembly and repairs of the unit may only be carried out after it has been effectively disconnected from the power network.
- It is forbidden to operate the unit beyond the temperature range specified in the user manual, as well as in aggressive and potentially explosive environments.
- Do not place heating or other devices near the power supply cable of the unit.
- It is forbidden to connect the device to the mains if the power cord is found damaged.
- If the inseparable power cord is damaged it should be replaced by the manufacturer, a serviceman or by a qualified person in order to avoid hazards.
- The OHS rules must be observed, when using electrical equipment during the assembly of the unit.
- Exercise care, when unpacking/unloading of the unit.
- Do not bend the power cord, avoid damaging it.
- Use the air handling unit only for its intended purpose.

## 1.2. INTENDED USE

The unit is equipped with a cross-flow plate heat exchanger and electric heater. It is a device designed to save thermal energy by its recuperation, being one of the elements used in energy-saving technology systems. The unit is considered a supplementary device and must not be used as a stand-alone, independent heating source.

The unit is intended for securing continuous air exchange by means of forced ventilation in houses, offices, hotels, cafés and other residential and public premises, as well as for recuperation of heat energy from discharged air to heat up clean air coming from the outside. External air is heated by transferring heat energy from the exhaust air stream via a heat exchanger. The device is not intended for industrial use or for use in swimming pool or sauna ventilation systems.

Air flowing through the unit must not contain volatile flammable or explosive substances, chemically active vapours, dust with large particles, soot, fats or media conducive to the formation of harmful substances (toxic substances, dust, pathogenic microorganisms), sticky substances and fibrous materials.

The unit is designed for installation in a closed building, in the ambient air temperature from -5°C to +45°C, the relative humidity of up to 90%. The air handling unit may be operated intermittently at temperatures as low as -15°C, although this may result in reduced heat recovery efficiency.



**WARNING!** In the event of extremely unfavorable weather conditions (outside temperature below -10°C), it is not recommended to use the air handling unit above 70% air flow. This may result in excessive cooling of the room and incorrect operation of the device.

## 1.3. TRANSPORT AND STORAGE

Permissible storage and transport temperatures range from -20 to +50°C.

Transport and unpack the unit with care. Dispose of the packaging in an environmentally friendly manner.

## 1.4. SAFETY MEASURES REGARDING OPERATING OF THE UNIT

- Always and absolutely observe the safety regulations, warnings, comments, and cautions as recommended herein. Failure to observe the safety regulations, warnings, and cautions and instructions in this document may result in personal injury or damage.
- Do not touch the control panel or the electric feeder box with wet hands.
- It is forbidden to operate the unit with wet hands.
- The use of a high-pressure washer or water jet to clean the control panel is prohibited.
- Avoid any contact between the electric parts of the unit with water.
- In order to maintain the declared IP class, unused cable entries must be plugged.
- It is not allowed to block the inlets and outlets of air conduits, when the unit is in operation.
- Maintenance of the unit may only be carried out, after it has been effectively disconnected from the power network.
- It is forbidden to place on the power supply cord any objects which could abrade, cut or damage it otherwise.
- It is forbidden to store explosive or flammable substances in the vicinity of the unit.
- It is forbidden to open the unit, when it is in operation.
- In case of unusual noise, odour and smoke, immediately turn the control panel off and contact the service centre or the manufacturer.
- The installation of the unit should always be carried out in compliance with the general and local construction, safety and installation regulations issued by the relevant official institutions and the energy and water supply companies.
- The unit should be connected to the ventilation system before commissioning. Ventilation ducts provide protection from access to rotating fan blades. The ducts shall be secured against slipping off its connections in a manner requiring the use of tools.
- The permissible temperature of the air supplied to the device ranges from -20 to +50°C.

**1.5. SPECYFIKACJA TECHNICZNA**
**ARIUS 305 / 405**

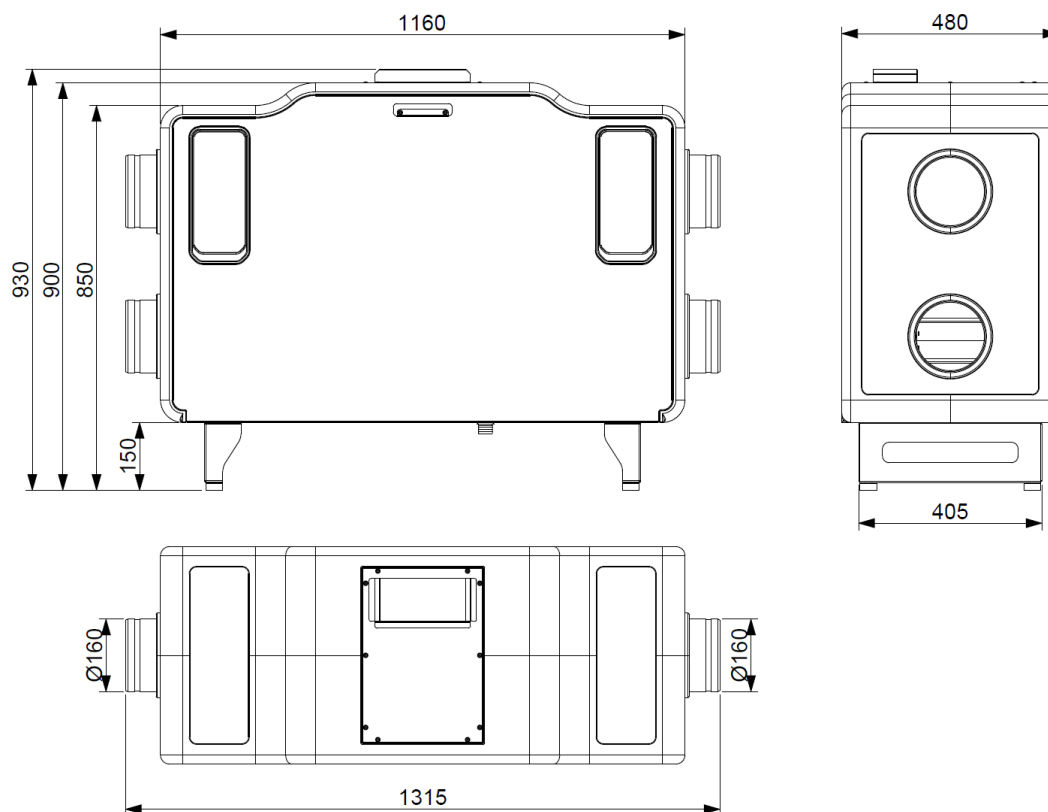
| <b>Specifications:</b>                                                           | <b>ARIUS 305</b>                                             | <b>ARIUS 305 Entalp.</b>    | <b>ARIUS 405</b>           | <b>ARIUS 405 Entalp.</b>    |
|----------------------------------------------------------------------------------|--------------------------------------------------------------|-----------------------------|----------------------------|-----------------------------|
| Supply voltage                                                                   | 230 V AC / 50Hz                                              |                             |                            |                             |
| Maximum power consumption<br>(without the pre-heater)                            | 130 W                                                        | 125 W                       | 210 W                      | 200 W                       |
| Pre-heater power output                                                          | 2000 W                                                       |                             |                            |                             |
| Electrical protection class                                                      | I                                                            |                             |                            |                             |
| IP protection class                                                              | IP33                                                         |                             |                            |                             |
| Capacity (at 100 Pa)                                                             | 317 m <sup>3</sup> /h                                        |                             | 413 m <sup>3</sup> /h      |                             |
| Max motor speed                                                                  | 3050 rpm                                                     | 3100 rpm                    | 3700 rpm                   | 3600 rpm                    |
| Noise level<br>(Acoustic pressure - 3m)                                          | 39 dB(A)                                                     | 38 dB(A)                    | 43 dB(A)                   | 42 dB(A)                    |
| Type of heat exchanger                                                           | Counterflow                                                  | Counterflow<br>enthalpy     | Counterflow                | Counterflow<br>enthalpy     |
| Max. heat recovery efficiency                                                    | up to 95%                                                    | up to 90%                   | up to 95%                  | up to 90%                   |
| Heat exchanger material                                                          | Polystyrene                                                  |                             |                            |                             |
| Housing material                                                                 | EPP + powder coated steel                                    |                             |                            |                             |
| Filter – intake vent                                                             | VM5AH405 - M5 ISO ePM10<br>(optional VF7AH405 - F7 ISO ePM1) |                             |                            |                             |
| Filter – exhaust                                                                 | VM5AH405 - M5 ISO ePM10                                      |                             |                            |                             |
| Pre-filter intake/exhaust                                                        | VFWAH405 (optional)                                          |                             |                            |                             |
| Connection pipes                                                                 | 160 mm                                                       |                             |                            |                             |
| Diameter of air connector                                                        | 32 mm                                                        |                             |                            |                             |
| Diameter of condensate drain<br>connector                                        | Horizontal (standing or hanging)                             |                             |                            |                             |
| Mounting position                                                                | 48 kg                                                        | 46 kg                       | 48 kg                      | 46 kg                       |
| Weight                                                                           | AERO AP + AWENTA CONTROL                                     |                             |                            |                             |
| Controller type                                                                  | 930 mm x 1315 mm x 480 mm                                    |                             |                            |                             |
| Dimensions<br>[height x width x depth]                                           | Automatic (100% by-pass)                                     |                             |                            |                             |
| By-pass                                                                          | 2x radial fan with EC motor                                  |                             |                            |                             |
| Fans                                                                             | YES<br>(VAH305CF versions)                                   | YES<br>(VAH305CFE versions) | YES<br>(VAH405CF versions) | YES<br>(VAH405CFE versions) |
| Constant Flow system                                                             | YES                                                          |                             |                            |                             |
| Modbus RTU communication                                                         | VLAN iNEXT (optional)                                        |                             |                            |                             |
| Internet module<br>+ Android and iOS app                                         | VSPM (optional)                                              |                             |                            |                             |
| Air quality sensor<br>(CO <sub>2</sub> , wilg., temp.,<br>PM1, PM2.5, PM4, PM10) | VSHC (optional)                                              |                             |                            |                             |
| CO <sub>2</sub> concentration and humidity                                       | VSHW (optional)                                              |                             |                            |                             |

**ARIUS 505 / 605**

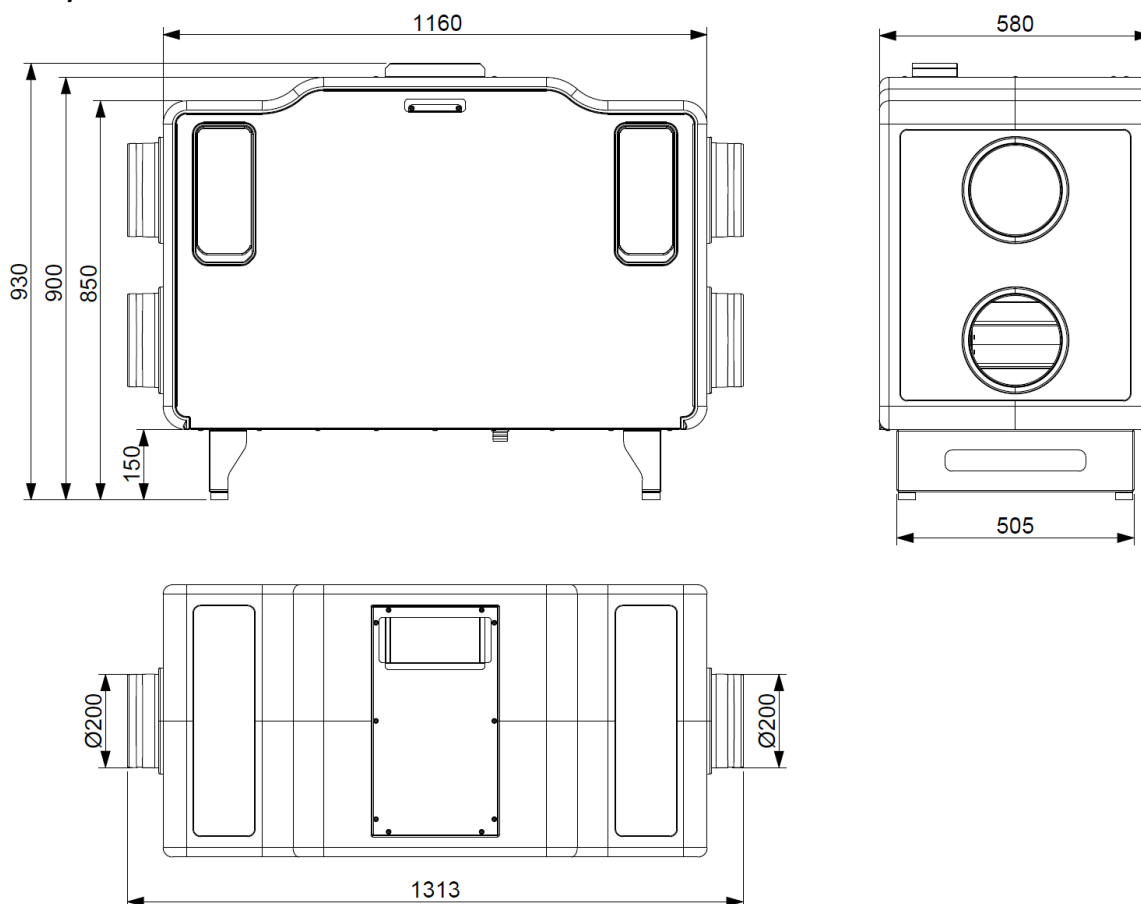
| Specifications:                                                                  | ARIUS 505                                                    | ARIUS 505 Entalp.           | ARIUS 605                  | ARIUS 605 Entalp.           |
|----------------------------------------------------------------------------------|--------------------------------------------------------------|-----------------------------|----------------------------|-----------------------------|
| Supply voltage                                                                   | 230 V AC / 50Hz                                              |                             |                            |                             |
| Maximum power consumption<br>(without the pre-heater)                            | 245 W                                                        |                             | 340 W                      |                             |
| Pre-heater power output                                                          | 2000 W                                                       |                             |                            |                             |
| Electrical protection class                                                      | I                                                            |                             |                            |                             |
| IP protection class                                                              | IP33                                                         |                             |                            |                             |
| Capacity (at 100 Pa)                                                             | 513 m³/h                                                     |                             | 615 m³/h                   | 590 m³/h                    |
| Max motor speed                                                                  | 3900 rpm                                                     | 3850 rpm                    | 4400 rpm                   |                             |
| Noise level<br>(Acoustic pressure - 3m)                                          | 43 dB(A)                                                     |                             | 45 dB(A)                   |                             |
| Type of heat exchanger                                                           | Counterflow                                                  | Counterflow<br>enthalpy     | Counterflow                | Counterflow<br>enthalpy     |
| Max. heat recovery efficiency                                                    | up to 95%                                                    | up to 90%                   | up to 95%                  | up to 90%                   |
| Heat exchanger material                                                          | Polystyrene                                                  |                             |                            |                             |
| Housing material                                                                 | EPP + powder coated steel                                    |                             |                            |                             |
| Filter – intake vent                                                             | VM5AH605 - M5 ISO ePM10<br>(optional VF7AH605 - F7 ISO ePM1) |                             |                            |                             |
| Filter – exhaust                                                                 | VM5AH605 - M5 ISO ePM10                                      |                             |                            |                             |
| Pre-filter intake/exhaust                                                        | VFWAH605 (optional)                                          |                             |                            |                             |
| Connection pipes                                                                 | 200 mm                                                       |                             |                            |                             |
| Diameter of air connector                                                        | 32 mm                                                        |                             |                            |                             |
| Diameter of condensate drain<br>connector                                        | Horizontal (standing or hanging)                             |                             |                            |                             |
| Mounting position                                                                | 54 kg                                                        | 52 kg                       | 52 kg                      | 57 kg                       |
| Weight                                                                           | AERO AP + AWENTA CONTROL                                     |                             |                            |                             |
| Controller type                                                                  | 930 mm x 1315 mm x 580 mm                                    |                             |                            |                             |
| Dimensions<br>[height x width x depth]                                           | Automatic (100% by-pass)                                     |                             |                            |                             |
| By-pass                                                                          | 2x radial fan with EC motor                                  |                             |                            |                             |
| Fans                                                                             | YES<br>(VAH505CF versions)                                   | YES<br>(VAH505CFE versions) | YES<br>(VAH605CF versions) | YES<br>(VAH605CFE versions) |
| Constant Flow system                                                             | YES                                                          |                             |                            |                             |
| Modbus RTU communication                                                         | VLAN iNEXT (optional)                                        |                             |                            |                             |
| Internet module<br>+ Android and iOS app                                         | VSPM (optional)                                              |                             |                            |                             |
| Air quality sensor<br>(CO <sub>2</sub> , wilg., temp.,<br>PM1, PM2.5, PM4, PM10) | VSHC (optional)                                              |                             |                            |                             |
| CO <sub>2</sub> concentration and humidity                                       | VSHW (optional)                                              |                             |                            |                             |

## 1.6. TECHNICAL DRAWINGS

### ARIUS 305 / 405

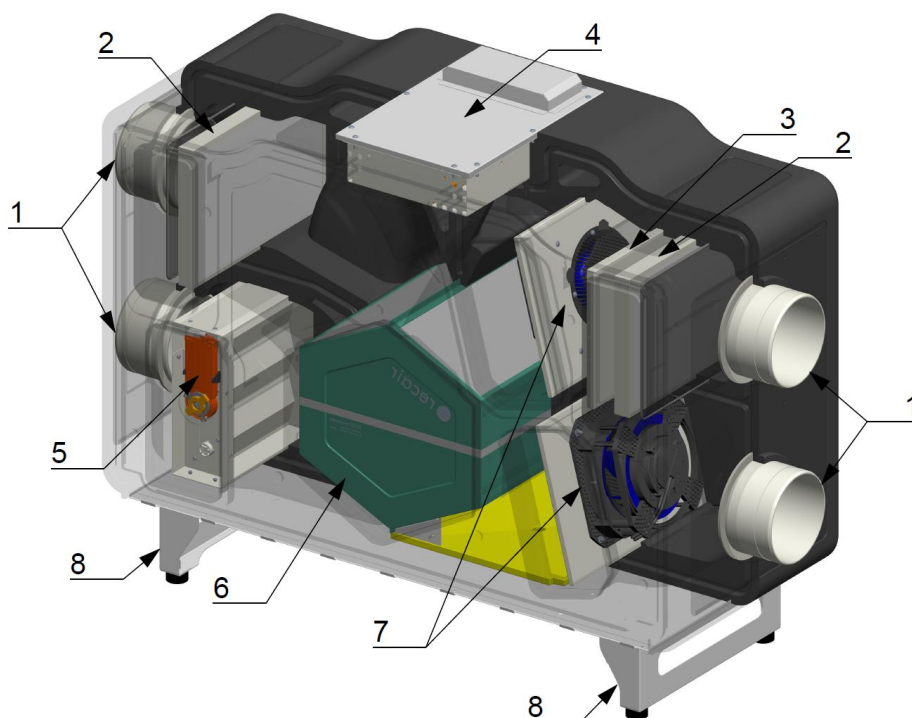


### ARIUS 505 / 605

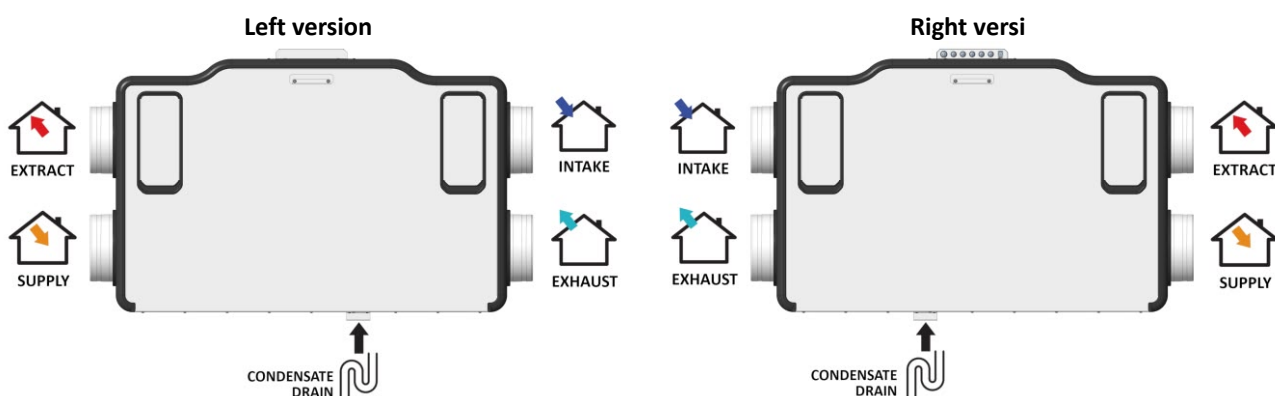


## 1.7. STANDARD SYSTEM COMPONENTS

1. Connection pipes
2. Air filters
3. Preheater\*
4. Electrical chamber
5. By-pass flap
6. Counterflow exchanger
7. Fans
8. Feet



## 1.8. LAYOUT OF CONNECTIONS



**NOTE:** To change the version from LEFT to RIGHT, turn the device and the electronics cover upside down.

Connection ports designation:



**INTAKE** – outdoor air intake duct



**EXHAUST** – used air exhaust duct



**EXTRACT** – duct removing used air from rooms



**SUPPLY** – duct supplying air to rooms

### 1.9. OPERATION PRINCIPLE

Fresh air is drawn in with the air intake located outside the building. Then, using ventilation ducts, the air is transported to the air handling unit. After filtering, it flows to the heat exchanger where heat energy exchange from the exhaust stream takes place. The air is heated in winter and cooled in the summer. Next, the supplied air flows to the so-called “clean” areas such as a living room or bedroom.

Both, used and polluted air is extracted from the so-called “dirty” areas such as a toilet, bathroom, kitchen or laundry by means of exhaust grilles or diffusers, and then directed to the air handling unit by means of exhaust ducts. After filtering, it flows to the heat exchanger, where the heat or cold is “recovered” from the used air. The air is then moved to an outlet located outside the building.

### 1.10. ITEMS OF EQUIPMENT

The standard accessories of the unit include the following:

- Cross-flow plate heat exchanger.
- M5 class supply and exhaust air filters.
- AWENTA CONTROL panel
- Flexible condensate drain pipe dia. 32 mm
- Set of legs

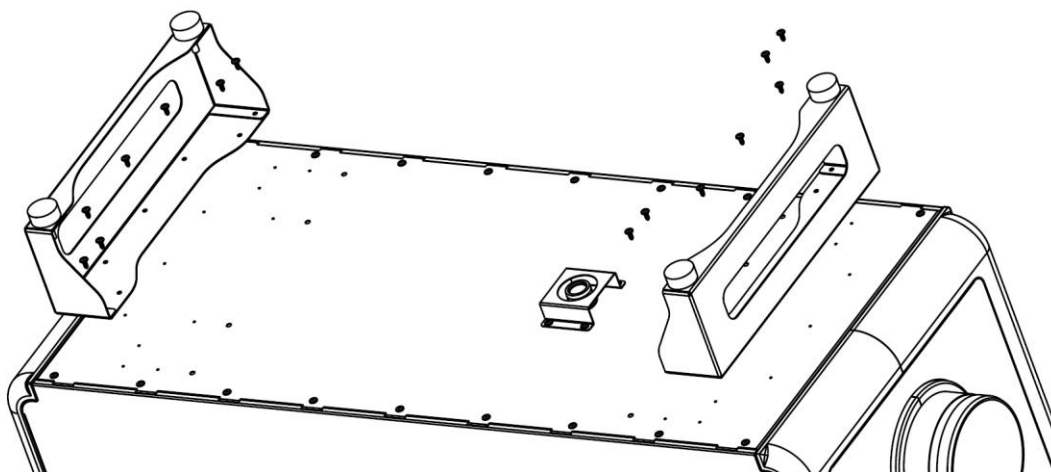
### 1.11. INSTALLING AND PREPARING THE UNIT FOR OPERATION

#### *Installation of the air handling unit*

- The unit should be installed horizontally with the connectors facing sideways. The unit can be placed on feet (set of feet included with the unit) or hung on the wall using a universal air conditioner bracket (the type of bracket should be selected according to the weight of the unit).

#### • STANDING INSTALLATION

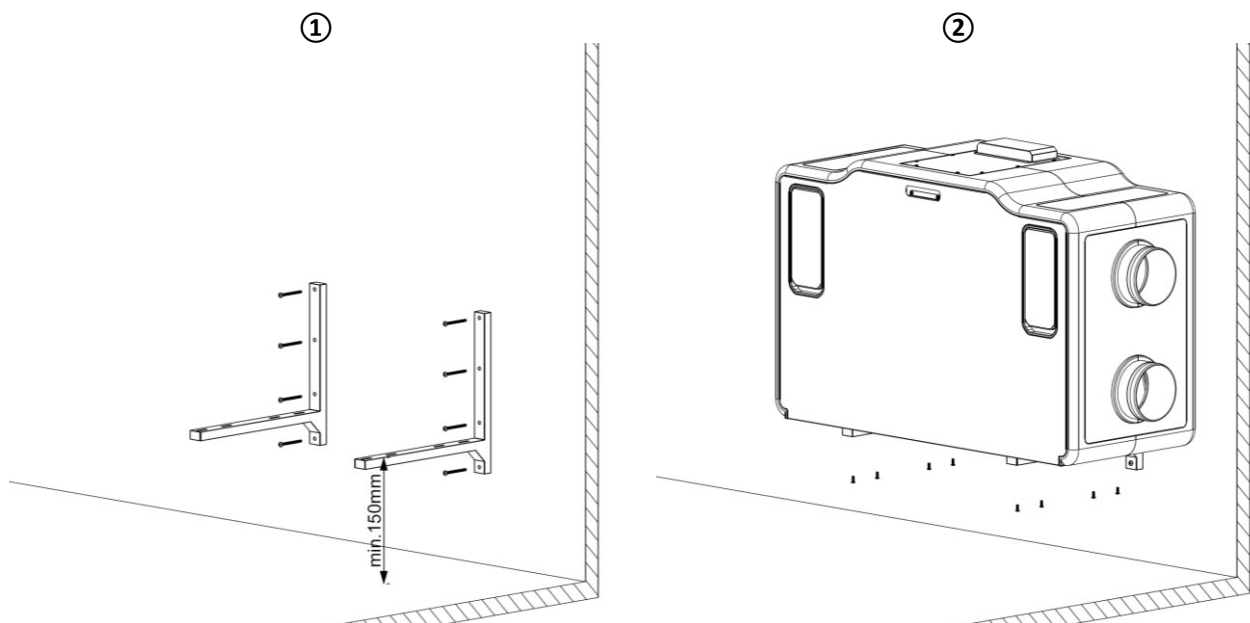
- Use the set of feet included with the device for upright installation.
- Secure the feet using the Ø4.2 sheet metal screws included in the package.
- Do not use the control unit until all foot screws have been tightened.



- The device should be installed on a level surface. If necessary, level the surface using adjustable feet.
- The control unit should be stable, with all feet touching the floor.

#### • HANGING INSTALLATION

- The unit should be suspended at a minimum height of 150 mm from the floor (distance required to ensure space for the condensate drain trap).
- Check that the structure intended for installation can support the weight of the unit. If not, reinforce the installation site with additional beams. The unit must be installed on a rigid and stable surface.
- The bracket should be secured using wall plugs or other fasteners suitable for the type of material. After screwing in the bracket, check its stability.



- The device should be secured to the bracket to prevent accidental slipping and ensure stable installation. It is recommended to use M4 screws or self-tapping screws that do not penetrate the housing deeper than 20 mm.
- To ensure proper operation, the device should be installed horizontally.

**NOTE:** The control unit should be installed in such a way that it can be easily opened for filter replacement, heat exchanger cleaning and other maintenance activities.

#### **Minimum lengths of ventilation ducts**

To ensure the best efficiency of the air handling unit and to reduce aerodynamic losses due to turbulence, it is recommended to install a straight section of air duct at the entry and exit of the unit.

The minimum recommended lengths of such straight sections:

- 25 cm of an air conduit at the inlet side;
- 60 cm at the outlet side.

In case of lack or short air ducts on one or several ports of the air handling unit it is necessary to protect the unit's internal parts against entry of foreign objects, for example, install a protective grid or other device with mesh size not larger than 12.5 mm, to prevent free access to the fans.

If the source of noise is where the spiral air duct is connected, replace the spiral air duct with a flexible duct to avoid resonance. Flexible inserts can also be used to prevent resonating.

#### **Draining of condensate**

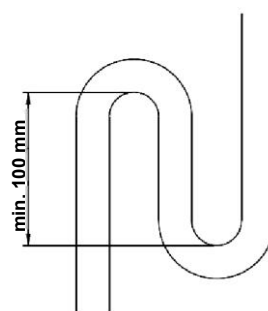
Connect the flexible condensate drain pipe to one of the ports of the drip tray, depending on the unit configuration (LEFT/RIGHT). The dia. 32 mm pipe should be bent to form a trap (the height difference between the upper and lower elbow of the trap should be at least 100 mm). The drain pipes have to be arranged with a slope of approximately 2%.

**NOTE: Fill the drain system with water, before starting the unit for the first time! The drain trap must be filled with water during operation at all times.**

Make sure that water flows into the drain, otherwise condensate may accumulate inside the unit when the recuperator operates, which in turn may damage the unit and cause water leakage into the room.

The condensate drain system must be used in all rooms, in which air temperature is above 0°C! If the room temperature is below 0°C the condensate drainage system has to be thermally protected and equipped with a heating device to prevent it from freezing.

**ATTENTION! Condensate drainage is also recommended in air handling units with an enthalpy exchanger, as in special cases a small amount of condensate may accumulate.**



### Connecting to the mains power supply

The unit must be connected to a 230V / 50Hz single-phase AC power supply network, using the original power cord provided with the unit. Before connecting to the mains, check the cable for any mechanical damage caused by crushing, cutting etc., which may result in an electric shock.

The unit must be connected to the power network, in compliance with the regulations and standards in force.

In the circuit of the socket to which the air handling unit will be connected, an overcurrent circuit breaker with a rated current of 16A and B characteristics is recommended.

#### ATTENTION!



**The control panel should be connected to a properly installed socket equipped with an earthing contact. The power outlet should be located in an easily accessible place so that the plug can be pulled out easily in case of danger. The panel ratings are given on the manufacturer's factory label. Any changes to the internal connection are prohibited and will void the warranty.**

### Installation of air ducts

- The ventilation ducts should be secured against slipping from the connection stubs with cable ties.
- The distance between the air intake and the outlet should be at least 1.5 m.
- The air intake should be located on the shadiest building side as far as possible from sources of stale air (street, chimney, etc.)
- Install the exhaust air duct with a slope to the unit.
- All ducts should be insulated to avoid inside condensation and excessive moisture accumulation.
- When installing the ducts, minimise the number of sharp bends, etc., to reduce resistance of the ducts.
- The ducting should be airtight. Use fittings with gaskets or seal the joints with e.g. adhesive aluminium tape.
- To reduce the transmission of vibrations and to make the unit run more quietly, connect it to the system with flexible dampers on the intake and exhaust sides.
- The installation should follow a design prepared by an authorised designer.
- Make flow adjustments on the diffusers, based on measurements taken with an anemometer according to the air balance obtained.
- Ceiling diffusers should be installed min. 30 cm from the walls.
- To ensure adequate flow between rooms:
  - The gap under the internal door should have a minimum surface area of 7600 mm<sup>2</sup>
  - At least 10 mm gap under a standard internal door with a width of 760 mm
  - **Do not cover the openings as this will disturb air circulation**
- Recommended duct thickness depending on ambient temperature:

| Air duct type: | Ventilation duct ambient temperature               |                  |                    |
|----------------|----------------------------------------------------|------------------|--------------------|
|                | from -20°C to 0°C                                  | from 1°C to 14°C | from +15°C to 20°C |
|                | Insulation thickness for a given temperature range |                  |                    |
| Supply         | 20 mm + (200 mm)*                                  | 50 mm            | 20 mm              |
| Exhaust:       | 20 mm + (200 mm)*                                  | 50 mm            | 20 mm              |
| Intake         | 50 mm                                              | 50 mm            | 50 mm              |
| Discharge      | 20 mm + (200 mm)*                                  | 20 mm            | 20 mm              |

\*20 mm mineral wool insulation covered with aluminium foil on one side + a minimum of 200 mm of mineral wool as a covering or casing for pipes laid in the attic without thermal insulation.

## 1.12. MAINTENANCE



### ATTENTION!

It is absolutely necessary to disconnect the control panel from power supply before performing any maintenance operations.



### ATTENTION!

Do not use corrosive chemicals and solvents during any maintenance work.

### **Filter replacement/cleaning**

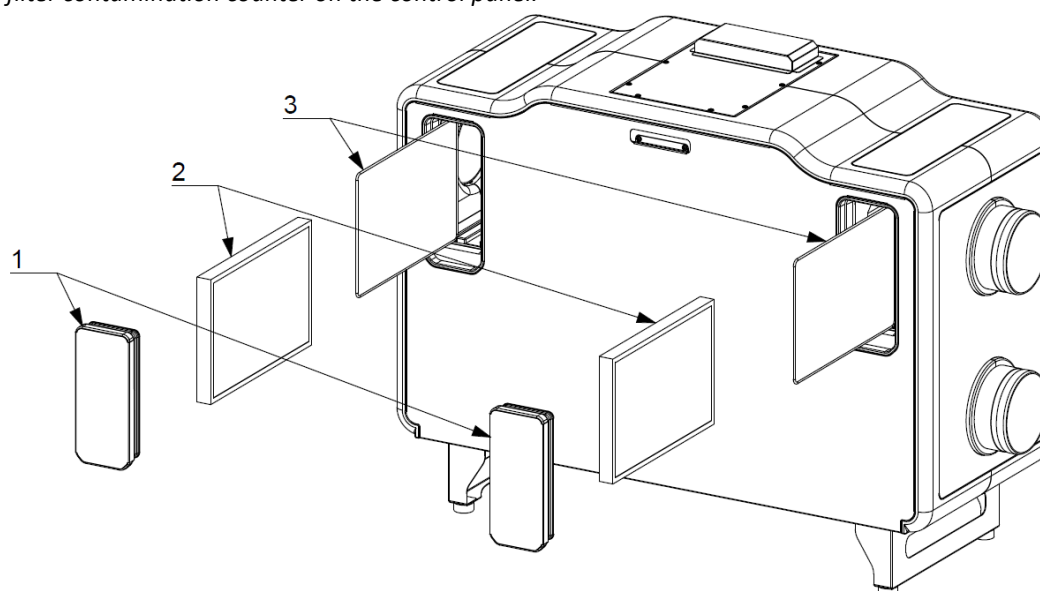
Fouled filters increase air flow resistance which reduces the amount of air supplied to the rooms, and increases power consumption by the fans.

Filters should be replaced as they become dirty, but at least three times a year.

Optionally the air handling unit can be equipped with a pre-filter to extend the life of the fine filters. The pre-filter should be rinsed under running water and then dried before re-insertion, as it is reusable.

### **Filter change procedure:**

- Remove the filter caps, which are press-fit (1);
- Remove the M5/F7 filters (2);
- Remove the pre-filters (3) – optional;
- Install new or cleaned filters according to the above diagram in reverse order.
- Reset the filter contamination counter on the control panel.



### NOTE:

Make sure if the arrow is pointing downwards when inserting the filters.

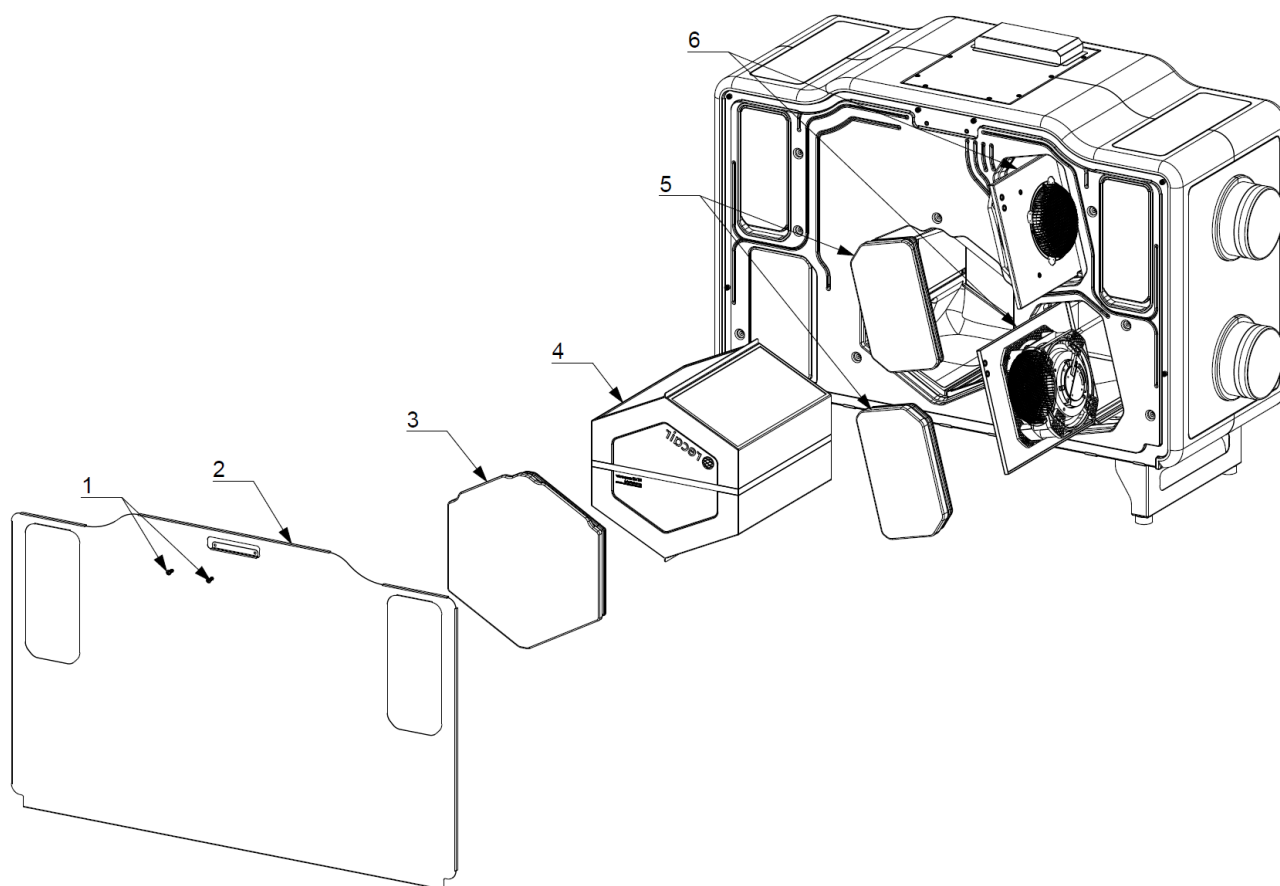
### **Fan maintenance (once a year)**

Even with regular maintenance of the filters and recuperator, dust deposits may accumulate in the fans, which reduces the efficiency of the air handling unit and the amount of air supplied to the rooms.

Use a soft cloth or brush to clean the fans. In order to avoid possible damage to the rotor, do not use water, chemically aggressive solvents, sharp objects etc.

### **Heat exchanger maintenance (once a year)**

Even with regular filter maintenance, dust deposits can form in the unit. In order to maintain high heat transfer efficiency, the heat exchanger should be cleaned regularly. Remove the heat exchanger from the air handling unit and wash it with warm water solution of neutral detergent, then reinstall the dried heat exchanger.



**Heat exchanger/fan cleaning procedure:**

- Unscrew the fixing screws (1) and then remove the front cover (2);
  - Remove the heat exchanger cap (press-fit) (3);
  - Slide out the heat exchanger (4);
  - Wash the exchanger under running water (reinstall after drying);
  - Remove the fan caps (press-fit) (5);
  - Detach the reusable clamps securing the fan cables
  - Partially slide out the fan cassettes (6), then clean the fan blades with a soft cloth, for example (after removing the cable ties, the length of the cable allows the fans to be slid out far enough to access the blades – there is no need to disconnect the cables);
  - After cleaning, reassemble the device according to the above diagram in reverse order.
- control panel

**Maintenance of the condensate drain system (once a year)**

The condensate drain system (drain pipe) may be contaminated by particles from the evacuated air. Check the function of the drain pipe, by filling the drain tank with water and, if necessary, removing dirt from the drain trap and drain pipe.

**Maintenance of air intake and exhaust ducts (twice a year)**

Leaves and other impurities can clog ventilation grates and reduce both the efficiency of the unit and air flow. Check the intake/exhaust grille twice a year and clean it, if necessary.

**Maintenance of the air ducting (every 5 years)**

Even if all the aforementioned maintenance activities of the air handling unit are performed properly, dust deposits may build up inside the air ducts, which reduces the air handling unit's efficiency. Air ducts are maintained by periodic cleaning or changing them.

### 1.13. PREHEATER

The device is equipped with a preheater, which can be used as one of the methods of protection against freezing of the heat exchanger while the outside temperatures are below freezing. Other defrosting methods are the temporary stopping of the supply fan or the opening of the By-pass damper.

Configuration of service settings for work with the preheater:

- defrosting temperature (default 5°C)
- defrosting method (set to HEATER)
- defrosting control range (default 1.5°C)

**NOTE: A missing or damaged ejector sensor shuts down the heater.**

### 1.14. WASTE MANAGEMENT NOTICE

**Do not dispose of waste electrical equipment with household waste.**



The crossed-out wheeled bin symbol on this product indicates that it is waste electrical and electronic equipment (WEEE) at the end of its operating life and shall not be disposed of with household waste. The crossed-out wheeled bin symbol specifies that the product is subject to obligatory waste segregation schedules for proper disposal. The product is made from recyclable materials and components. The product user shall be required to return the product which has become WEEE to a WEEE collection unit. The operators of WEEE collection units, including local WEEE locations, product resellers and other WEEE collection locations managed by local authorities form a proper waste disposal system. Proper WEEE disposal helps avoid harmful effects to humans and the environment from the risk caused by hazardous components this product may contain. Your household can make an important contribution to the recovery and recycling of WEEE. This

contribution fosters a behaviour which helps conserve the natural environment, which is a common asset for the mankind. Households are among the leading consumers of small appliances and equipment. A rational management of operation and disposal of small appliances and equipment will contribute to efficient recycling.

## 2. AWENTA CONTROL PANEL

### 2.1. OPERATION PRINCIPLE

The AWENTA CONTROL determines the set room temperature and ventilation performance based on the selected operating program.

#### OPERATING MODES (programmes):

- **According to clock zones** -> You can set two comfort zones and one Away zone. Outside these zones, the economy zone applies.
- **Holiday mode** -> As above, but according to a separate daily programme.
- **Manual operation** -> One set temperature and one ventilation capacity, set manually, apply at all times.
- **Away from home** -> the settings for the away from home zone apply at all times.
- **Vacation** -> The air handling unit operates at the first speed. It periodically activates ventilation.

#### Ventilation in vacation mode for outdoor temperatures >10°C

The fans switch on at 100% for 45 minutes 12 hours after the holiday mode is activated. The cycle is repeated every 24 hours.

#### Ventilation in vacation mode for outdoor temperatures <10°C

The exhaust fan switches on at 100% and the supply fan at 30% for 45 minutes, 12 hours after the vacation mode is activated. The cycle is repeated every 12 hours.

#### OPERATING MODES OF THE INSTALLATION:

- **WINTER** – AWENTA CONTROL functions as the heating thermostat. The related equipment tends to achieve the set temperature in the room, e.g. switching on the heating. The ventilation heats up the supplied air to the appropriate temperature. The particular reaction depends on the configuration of the related equipment
- **SUMMER** – heating and cooling functions are off
- **COOLING** – heating is off. AWENTA CONTROL functions as the cooling thermostat. The related equipment tends to cool the room to the set temperature, e.g. by switching on fan coils, supply air cooler, opening the recuperator BY-PASS if the conditions so require. The VACATION, AWAY MODE block the cooling operation.

The system operation mode can be changed manually or can change automatically depending on the outside temperature.

### 2.2. INSTALLATION

#### **General**

The work related to connecting and assembling should only be carried out by persons with the appropriate qualifications and permissions, and in line with the valid standards and regulations.

**NOTE:** Any connection work must only be carried out when the supply voltage is isolated, make sure that the electrical conductors are isolated.

#### **Power supply**

The AWENTA CONTROL control panel should be powered directly from AERO 4 controller outputs marked with “U” and “G” symbols (12 VDC)

#### **Connecting**

The AWENTA CONTROL control panel should be wired with a conductor of the minimum cross-section of 0.5 mm<sup>2</sup> according to the diagram in section CONNECTION DIAGRAMS. The minimum distance between conductors connecting the panel with the module and other devices connected to the C14 network and parallel conductors supplied with 230 VAC is 30 cm. A shorter distance may cause communication interference or damage to the device.

The following figure shows an example of a C14 network connection.

**NOTE:** In order to ensure smooth data transmission it is necessary to install a ferrite filter on the power and communication wires between the AERO module and the AWENTA CONTROL thermostat. When leading the conductors through the filter loop them around the ring as shown in the photo at the side.



### Installation site

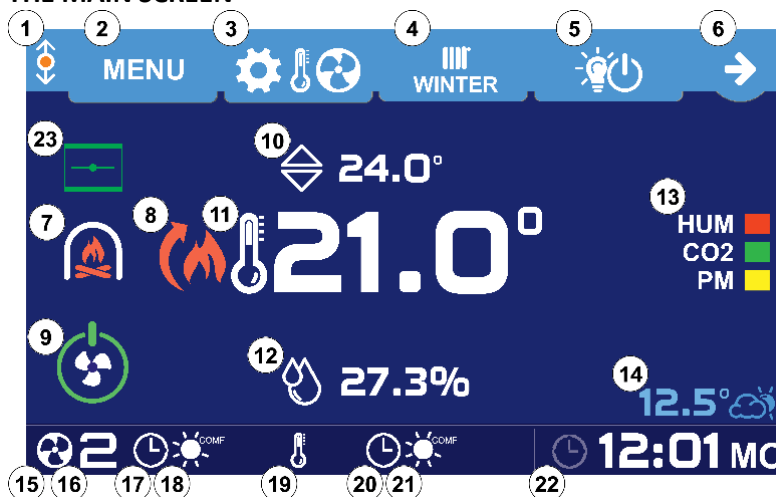
The AWENTA CONTROL control panel should be mounted at a height of approximately 150 cm from the floor, away from sources of heat (e.g. radiators, television) and cold (e.g. external doors).



#### ATTENTION!

Only one AWENTA CONTROL panel can be connected to the air handling unit.

### 2.3. DESCRIPTION OF THE MAIN SCREEN



- 1 Digital communication indicating via C14 protocol, flashing orange dot indicates that communication is in progress.
- 2 Menu button
- 3 Operating mode button. Depending on the configuration, one of the following symbols will appear:
  - Operation without a thermostat and ventilation.
  - Operation with a thermostat.
  - Operation with ventilation.
  - Operation with a thermostat and ventilation.
- 4 Installation mode button. Depending on the selected mode one of the icons shown below is displayed:
  - Winter (heating).
  - Summer (without heating and cooling)
  - Cooling.
- 5 EX4 module (displayed when the option is enabled).
- 6 Screen button for detected devices (support for additional devices).

- 7 Fireplace mode. Activation of the FIREPLACE function in the ventilation service menu is required.



Fireplace operation mode enabled. The speed of the supply fan is increased by the value set in the ROTATION ADJUSTMENT FOR THE FIREPLACE parameter.



Fireplace operation mode disabled.

- 8 The symbols appear for the enabled thermostat operation with heating and/or cooling. In the INTAKE TEMPERATURE CONTROL MODE, the ROOM option should be set in the ventilation service menu.



Signal to other devices that the room is not heated enough and the heating needs to be turned on. **Relay R4 switched on.**



Signal to other devices that the room is at the correct temperature (grey).  
**Relay R4 switched off.**



Signal to other devices that the room is overheated and cooling needs to be turned on.  
**Relay R5 switched on.**



Signal to other devices that the room is at the correct temperature (grey).  
**Relay R4 switched off.**

- 9 Przycisk załączania/wyłączania wentylacji.



Ventilation is switched on (green).



Ventilation is off (red). In addition to that, "OFF" will be displayed in field 14.

- 10 Current room temperature setpoint. Activation of the thermostat operation in service parameter PANEL/THERMOSTAT FUNCTION (Heating, Cooling, Heating+Cooling) is required.

- 11 The current reading of the information configured in the service parameter PANEL/GENERAL INFORMATION.

- 12  **30.4%** Measurement of humidity in the room where AWENTA CONTROL is installed.

- 13  Air quality and humidity. When pressed, a screen appears where detailed air parameters can be viewed. They are visible when sensors are connected.  
See section 2.11. for a detailed description.

- 14  Press to display a chart of the outside temperature variations over the last 24 hours, including the minimum and maximum temperatures recorded during that time. This information is not displayed if there is no outside temperature sensor.

- 15  Current ventilation operation status.

- 16  Current ventilation run. Displaying "OFF" means that the ventilation is switched off with the button 9.

- 17  Current ventilation operation mode (scheduled, holiday, manual).

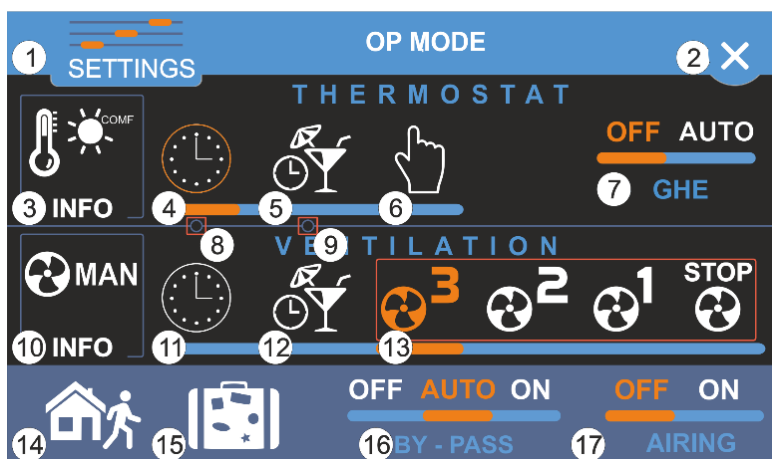
- 18  Current work zone (comfort, eco, away mode, vacation).

- 19  Current operating status of the thermostat.

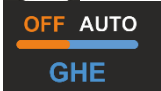
- 20  Current operating status of the thermostat (schedule, holiday, manual).
- 21  Current work zone (comfort, eco, away mode, vacation).
- 22  Clock. Press to display the date and time setting screen
- 23 Buttons for zone control or E1 module relay (depending on configuration)
-  Zone II disabled
-  Zone II enabled
-  E1 module relay enabled
-  E1 module relay disabled

## 2.4. TRYB PRACY

Po naciśnięciu przycisku wyboru trybu pracy (przycisk 3 ekranu głównego), w zależności od konfiguracji, pojawia się ekran trybu pracy.

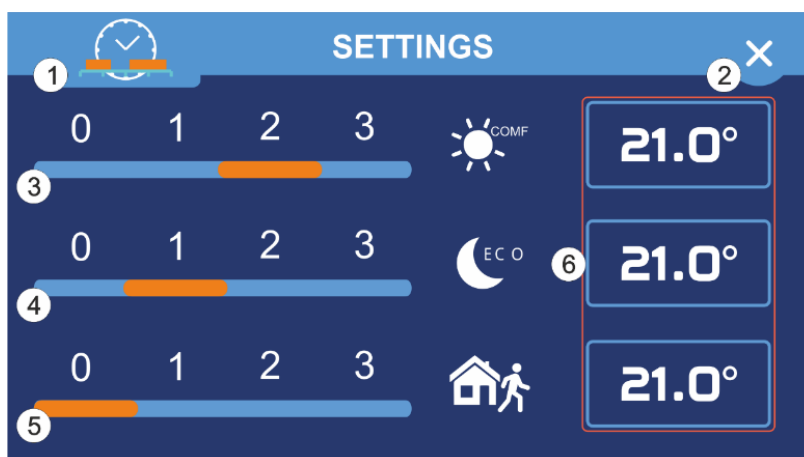


- 1  Moves to the thermostat and ventilation settings. See the SETTINGS section for a detailed description.
- 2  Returns to the main screen.
- 3  Moves to the thermostat information screen.
- 4  Scheduled mode.
- 5  Holiday mode.

- |    |                                                                                     |                                                                                                                                                                                                                   |
|----|-------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 6  |    | Manual mode.                                                                                                                                                                                                      |
| 7  |    | Activation of the GHE in automatic operation mode or deactivation. The GHE operation is possible after enabling the option.                                                                                       |
| 8  |    | Click to set the scheduled mode for the thermostat and ventilation simultaneously.                                                                                                                                |
| 9  |    | Click to set the holiday mode for the thermostat and ventilation simultaneously.                                                                                                                                  |
| 10 |    | Moves to ventilation information screen.                                                                                                                                                                          |
| 11 |    | Scheduled mode.                                                                                                                                                                                                   |
| 12 |    | Holiday mode.                                                                                                                                                                                                     |
| 13 |    | Manual selection of the ventilation operation mode.                                                                                                                                                               |
| 14 |    | Starts the AWAY FROM HOME programme.                                                                                                                                                                              |
| 15 |   | Attaches the VACATION programme.<br>Can be attached by date or indefinitely.                                                                                                                                      |
| 16 |  | Switches the BY-PASS to automatic mode, constantly closing or opening it.                                                                                                                                         |
| 17 |  | Switches ventilation to AIRING mode. This option is not visible when AWAY OF HOME or VACATION mode is enabled.<br>Once the VENTILATION TIME parameters have been set, the function will switch off automatically. |

## 2.5. SETTINGS

Clicking the button 1 from the OPERATION MODES section brings up the following screen:

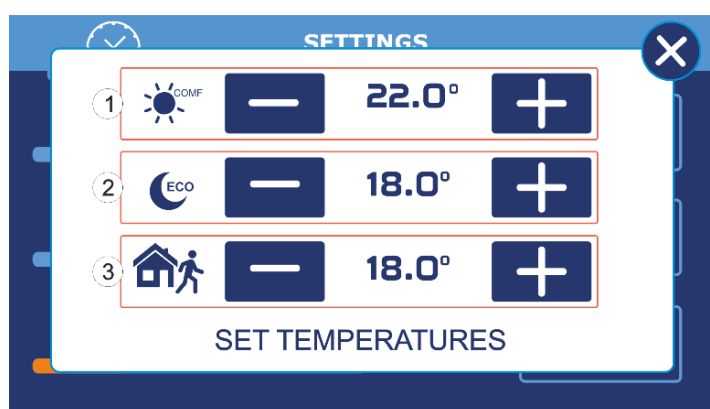


- |   |                                                                                     |                                 |
|---|-------------------------------------------------------------------------------------|---------------------------------|
| 1 |  | Moves to the schedule settings. |
| 2 |  | Exits to the previous screen.   |

- 3  Sets the fan speed for the comfort zone.
- 4  Sets the fan speed for the economic zone.
- 5  Sets the fan speed for the AWAY MODE.
- 6  Click to display the temperature setting screen. APPEARS AFTER THE OPTION HAS BEEN ENABLED.

## 2.6. TEMPERATURE SETTINGS

Clicking the button 6 from the SETTINGS section brings up the following screen. Use the  and  buttons to set the desired temperature.



- 1   22.0°  Setting comfort temperature.
- 2   18.0°  Setting the economic temperature.
- 3   18.0°  Set the temperature in the AWAY OF HOME mode.

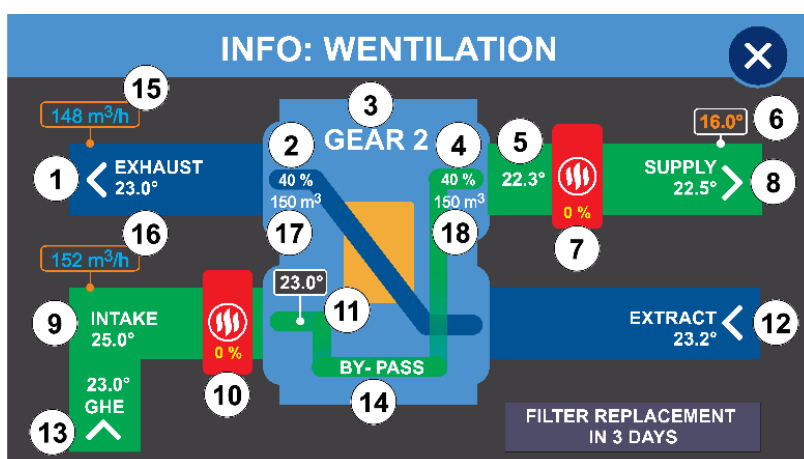
## 2.7. THERMOSTAT INFO

After clicking the button 3 from the OPERATION MODE section, the screen will display the details of the currently measured room temperature and the temperature setting.

## 2.8. VENTILATION INFORMATION SCREEN

After clicking the button 10 from the OPERATION MODE section, the ventilation screen shows a window with a graphical representation of the exchanger.

**NOTE:** Depending on the devices connected and installed in the control unit (heaters, coolers), the screen may differ from the screens shown in the manual.



- 1 Exhaust temperature.
- 2 Exhaust fan rpm.
- 3 Ventilation run.
- 4 Supply fan rpm.
- 5 Temperature before the secondary heater.
- 6 Calculated intake temperature.
- 7 Secondary heater (when the SECONDARY HEATER CONTROL function is enabled).
- 8 Air supply temperature.
- 9 Intake temperature. (behind GHE).
- 10 Preheater (when the defrost method is set using the preheater).  
Temperature upstream the recuperator (when the MINIMUM TEMP. UPSTREAM THE RECUPERATOR function is enabled)  
**Note:** An additional temperature sensor downstream the preheater is required.
- 11 Exhaust air temperature.
- 12 Exhaust air temperature.
- 13 Ground-air heat exchanger – open.
- 14 BY-PASS – open.
- 15 Measured air exhaust flow (applies to CF equipment version).
- 16 Measured intake airflow (applies to CF equipment version).
- 17 The set value of the exhaust airflow (applies to CF equipment version).
- 18 The set value for the intake airflow (applies to CF equipment version).

## 2.9. FIREPLACE MODE

The fireplace, when enabled, increases the supply fan speed in relation to the exhaust fan by the value set in the parameter FIREPLACE RPM CORRECTION. Activating the mode disables the RECUPERATOR DRYING function.

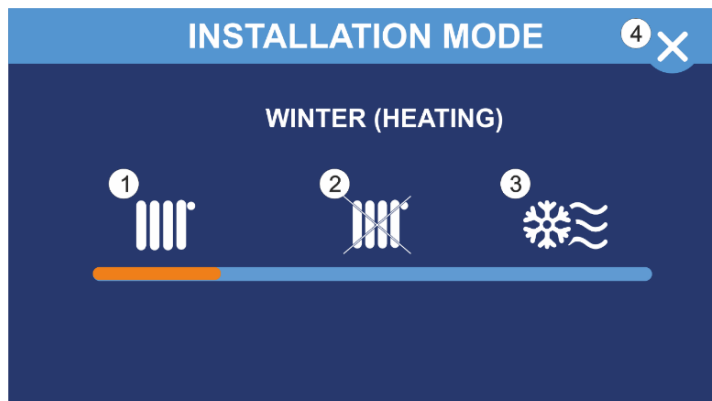
**NOTE:** The installation has to meet the following requirements for the mode to operate correctly and safely:

- for the BY-PASS, it is forbidden to set the simplified operation mode (manufacturer's parameter);
- it is forbidden to set the speed of the exhaust fan higher than that of the supply fan – it applies to each speed;
- it is forbidden to set the exchanger defrosting by switching off the supply fan;
- it is forbidden to set the exchanger defrosting by switching on the pre-heater and reducing the supply fan speed by 50%.

## 2.10. CHANGING THE SYSTEM OPERATION MODE

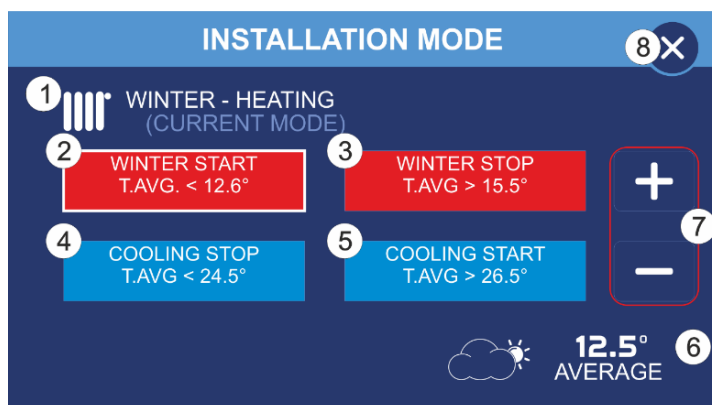
Changing the operation mode of the system can be done manually or automatically. The method is selected in the parameter WINTER/SUMMER MODE CHANGE METHOD.

In the case of a manual change, the following screen will appear on the main screen when the button 4 is pressed:



- |   |                                                                                    |                                                         |
|---|------------------------------------------------------------------------------------|---------------------------------------------------------|
| 1 |   | Activation of the WINTER mode (HEATING).                |
| 2 |   | Activation of the SUMMER mode (NO HEATING AND COOLING). |
| 3 |   | Activation of the COOLING mode.                         |
| 4 |  | Exit to the main screen.                                |

In case the parameter WINTER/SUMMER MODE CHANGE METHOD is set according to outdoor temperature or according to average temperature 1 or 2, the operation mode screen of the system will be as shown below



- |   |                                                                                                                     |                                                                                                                                             |
|---|---------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------------------------------|
| 1 |  WINTER - HEATING (CURRENT MODE) | Current system operation mode.                                                                                                              |
| 2 |                                  | Setting the temperature below which the WINTER mode is switched on. Highlighted item means that the parameter can be edited.                |
| 3 |                                  | Sets the temperature above which WINTER mode is switched off.                                                                               |
| 4 |                                  | Sets the temperature below which the COOLING mode will turn off.                                                                            |
| 5 |                                  | Sets the temperature above which COOLING mode is activated.                                                                                 |
| 6 |                                  | Depending on the selection of the winter/summer mode change method, it displays the current outside temperature or the average temperature. |



7

Decrease/increase the selected temperature by 0.1°C. The buttons are displayed when the parameter to be edited is selected.

8



Exit to the main screen.

**NOTE:** The difference between the temperatures WINTER START and WINTER STOP, WINTER STOP and COOLING STOP, COOLING STOP and COOL START must be at least 1°C. When increasing the temperature, this difference automatically transfers to the other settings.

## 2.11. SENSORS

In addition to the humidity/temperature sensor built into the AWENTA CONTROL panel, the device also supports up to 5 connectable sensors of various types.

Connected sensors are displayed on the main screen (icon 13). Clicking the caption displays the readings from all connected sensors. The maximum measured value is highlighted. The example screen with sensor information is shown on the right.

| SENSORY |                                    |  |  |
|---------|------------------------------------|--|--|
| 1 NANO1 | HUM:35.3% T:24.2°                  |  |  |
| 2       |                                    |  |  |
| 3       |                                    |  |  |
| 4       |                                    |  |  |
| 5       |                                    |  |  |
| 6 SHC6  | HUM:32.4% T:25.2° CO2: 829PPM      |  |  |
| 7 SHC7  | HUM:30.8% T:24.7° CO2: 951PPM      |  |  |
| 8       |                                    |  |  |
| 9       |                                    |  |  |
| 10 SPM  | HUM:40.1% T:21.9° CO2: 782PPM      |  |  |
|         | PM1: 13 PM2.5: 17 PM4: 17 PM10: 19 |  |  |

Avoid mounting sensors near windows and in a place of constant draft or heat sources. The sensors should be placed at a height of about 1.5 m from the floor.

### VSPM air quality sensor

The SPM air quality sensor measures relative humidity, temperature, CO2 concentration and the amount of PM1, PM2.5, PM4 and PM10 dust in the air. After exceeding one of the parameters, the fan speed is increased by 1 step.

VSPM is equipped with an automatic calibration algorithm. In order for the indications to be correct, the room where the sensor is located should be ventilated at least once a month in order to correct the reference point. After connecting the power supply, the sensor gives a value of 500ppm CO2. The correct indication will only appear after 30 minutes. Full calibration can take place even after several days of continuous use of the device.

**NOTE:** Only one VSPM sensor can be connected to the air handling unit.



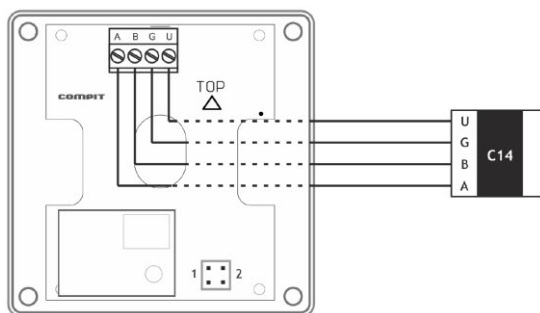
Signalling diode outside the housing:

- Slow increase and decrease of light intensity - normal operation
- Single pulse – one of the measured values exceeded the set threshold
- Multiple pulse - many of the measured values have been exceeded  
(the number of pulses corresponds to the number of measurement types exceeding the set thresholds)
- Enable / Disable - damage to one sensor

### CO2 concentration and VSHC humidity sensor

If the maximum air humidity value is exceeded, the fans' speed is increased by 1 stage. When the maximum CO2 concentration in the air is exceeded, the fans' speed is increased by 1 stage. If the maximum values of humidity and CO2 concentration are exceeded simultaneously, the fans' speed is increased by 2 stages. After the humidity level and CO2 concentration return to their optimum values, the fans operate at a set speed.

| 1 2 | Sensor number |
|-----|---------------|
|     | Sensor No. 6  |
|     | Sensor No. 7  |
|     | Sensor No. 8  |
|     | Sensor No. 9  |



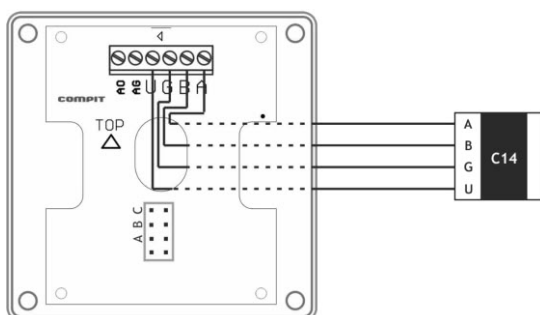
The setting of jumper links No. 1 and No. 2 defines the VSHC sensor address in C14 network. The sensors can have numbers from 6 to 9.

**NOTE:** A maximum of 4 VSHC or VSHW sensors can be connected.

be ventilated at least once a month, in order to correct the reference point. After connecting to the power supply the sensor shows the value of 500ppm CO<sub>2</sub>. The proper reading will appear only after 30 minutes.

### VSHW humidity sensor

If the maximum air humidity value is exceeded, the fans' speed is increased by 1 stage. The setting of jumper links B and C defines the VSHW sensor address in C14 network. The sensors can have numbers from 6 to 9.



| A | B | C | Sensor number |
|---|---|---|---------------|
| ■ | ■ | ■ | Sensor No. 6  |
| ■ | ■ | ■ | Sensor No. 7  |
| ■ | ■ | ■ | Sensor No. 8  |
| ■ | ■ | ■ | Sensor No. 9  |

**NOTE:** A maximum of 4 VSHW or VSHC sensors can be connected.

Signalling diodes inside the housing:

**STAT** (green):

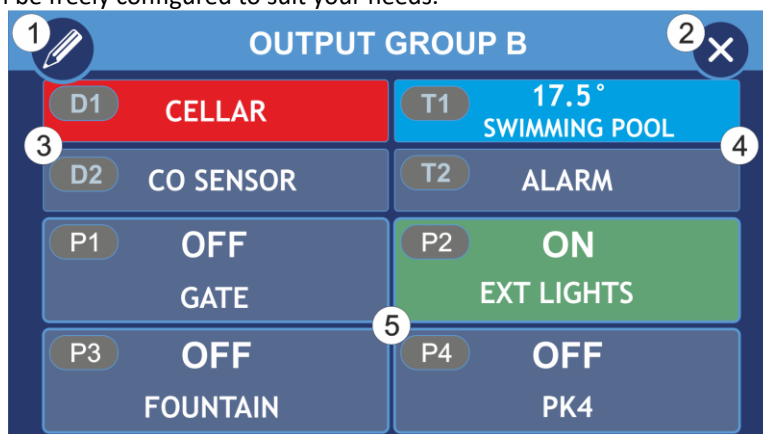
- 2 blinks and a long pause – no connection
- Continuous blinking – correct communication

**RS** (red)

- Each blink means a single data transmission to C14 network

## 2.12. VEX4 MODULE

The VEX4 add-on module extends the functionality of the AWENTA NONTROL room panel with additional inputs and outputs. The module can be freely configured to suit your needs.



- Edit subtitles (visible when the Allow to edit subtitles option is enabled)
- Exit to the main screen.
- Digital inputs.
- Digital inputs for temperature measurement (PT1000 sensor required).
- Relay outputs.

### Digital inputs

Digital inputs (D1-2, T1-2) allow you to monitor the status of any device equipped with a NO contact. When a signal is received, the field with the corresponding input number will illuminate red. If the input has been configured to display an alarm, the information will also appear on the home screen. Inputs T1 and T2 enable temperature measurement after proper configuration.

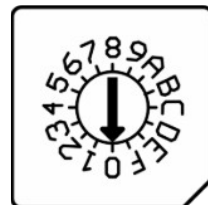
### Relay outputs

The relay outputs enable control of external devices, home automation systems, e.g. lighting, roller-blinds, garage doors.

## 2.13. MODULE E1

The additional E1B module extends the functionality of the AWENTA CONTROL panel with an additional relay output.

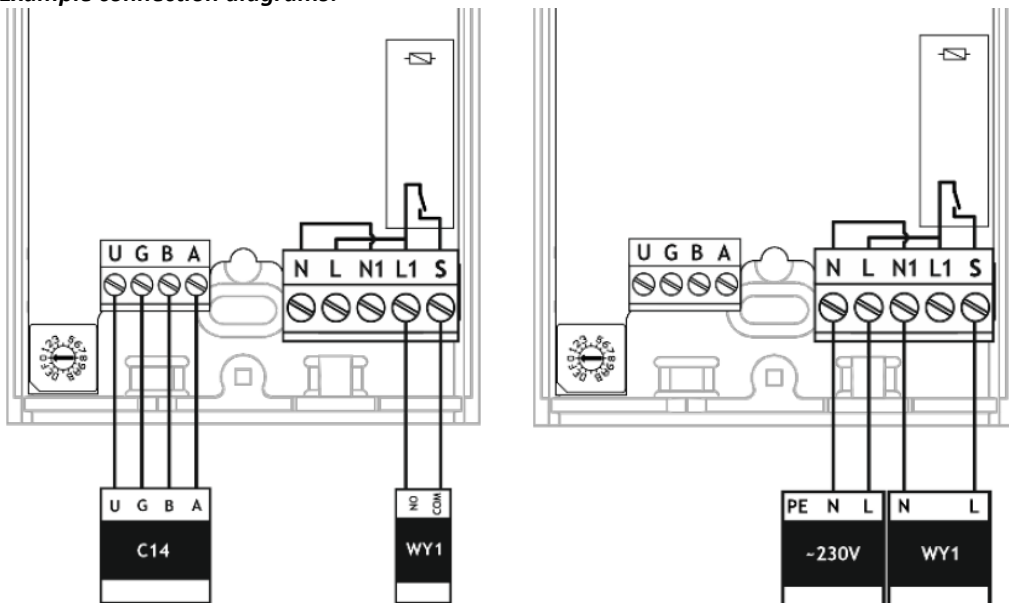
The module is configured using a rotary switch located inside the housing. After changing the configuration, the E1B module performs the assigned function after receiving new information. This may take up to 120 seconds, depending on the devices installed. In the event of a short-circuited relay and loss of communication, the relay switches off after 240 seconds (4 minutes).



### Selected functions below:

| Position | Function description                                                                                                                                                                                                     |
|----------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 0        | Relay permanently switched off (TEST)                                                                                                                                                                                    |
| 1        | Relay continuously engaged (TEST)                                                                                                                                                                                        |
| D        | Activate the relay using the E1 button on the main screen of the AWENTA CONTROL panel or when operation for ZONE II is enabled.<br>(requires activation of the selected function MENU → SERWIS → PANEL → CONTROL S2 / E1 |
| E        | Relay activated when the AWENTA CONTROL panel detects low air humidity.                                                                                                                                                  |

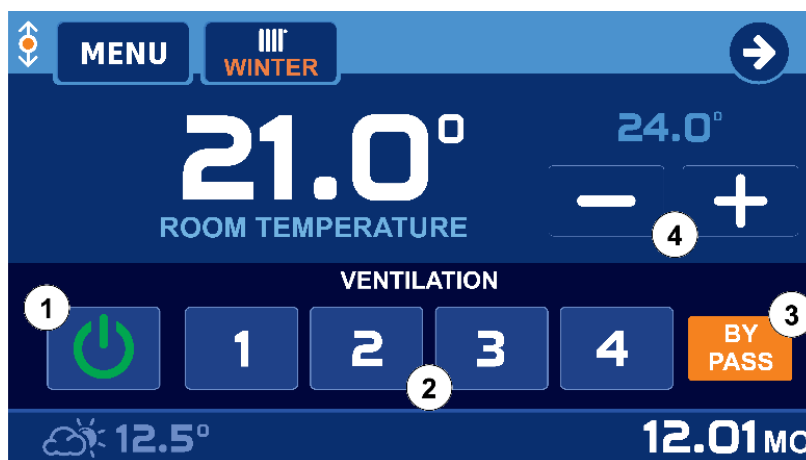
### Example connection diagrams:



Maximum relay  
current: 2A

## 2.14. SMART MODE

It enables direct control of ventilation efficiency, and simplifies setting of temperature set-points. By default it is deactivated, but it can be activated by selecting the **PANEL/PANEL OPERATION IN SIMPLE MODE** option in the service menu.

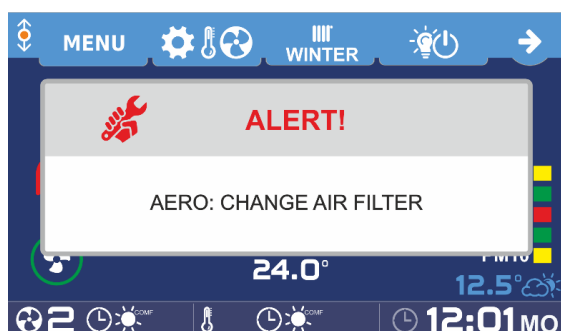


- |   |  |                                                   |
|---|--|---------------------------------------------------|
| 1 |  | Activation/deactivation of ventilation            |
| 2 |  | Adjusting ventilation speed                       |
| 3 |  | Open/close the BY-PASS                            |
| 4 |  | Decrease/increase the current desired temperature |

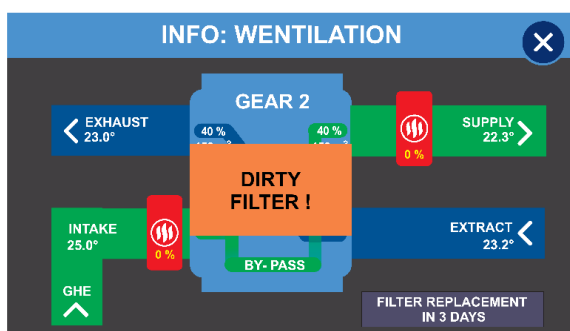
## 2.15. FOULED FILTER INDICATION

Filter fouling can be signalled in 2 ways:

1. Text flashing on the main screen:  
CHANGE AIR FILTER

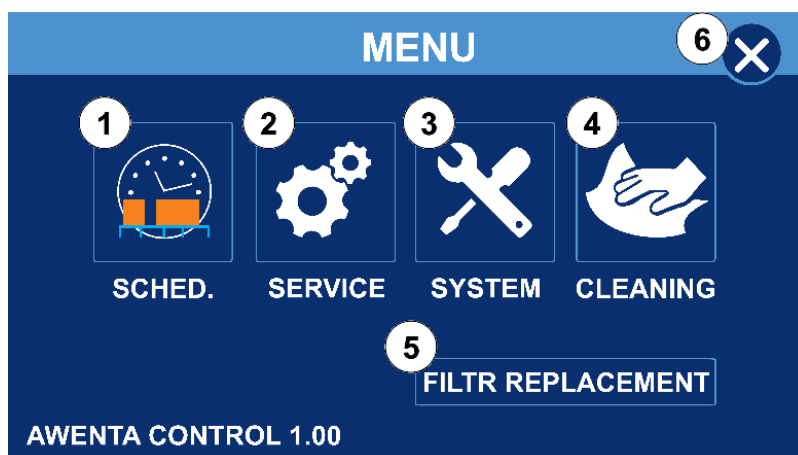


2. DIRTY FILTER! text flashing on the VENTILATION INFO screen.



## 2.16. MAIN MENU

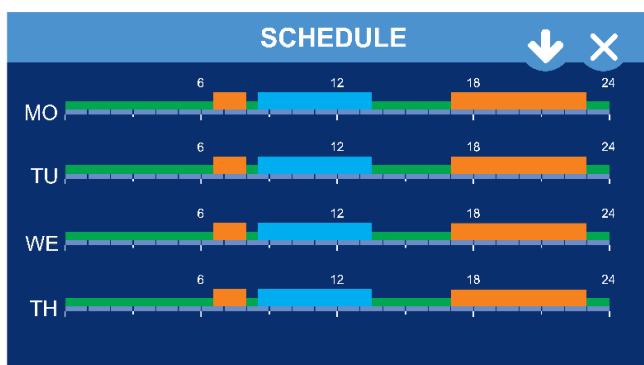
The main menu is accessed by pressing the MENU button on the main screen.



- |   |                                                                                     |                                                                                                                                                                                                     |
|---|-------------------------------------------------------------------------------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| 1 |    | Setting the thermostat operating schedule<br>(Section 2.17)                                                                                                                                         |
| 2 |    | Maintenance settings.<br>(Section 2.18)                                                                                                                                                             |
| 3 |   | System settings.<br>After selecting this option, you can change the panel language, enable or disable sounds when alarms occur, set the brightness of the display and customise the device screens. |
| 4 |  | Screen cleaning function.<br>When this option is selected, the screen locks for 30 seconds.                                                                                                         |
| 5 | <b>FILTR REPLACEMENT</b>                                                            | Resetting the filter replacement timer.                                                                                                                                                             |
| 6 |  | Exit to the main screen                                                                                                                                                                             |

## 2.17. SCHEDULE SETTINGS

To access the schedule settings, press SCHED. in the menu.



View of the weekly schedule.

Press to move on to the remaining days of the week and holiday schedule settings.

By clicking the bar of the selected day schedule you enter the edit window.

Pressing will take you to the main menu.



Edit schedule window for Monday

You can set 2 comfort zones and an away mode zone. Outside these zones, the economic zone applies. On the top, there is a graphical representation of the currently set zones.

To edit a zone, click the item you want to change



Use and to set the start time of the first zone (①) and its end (②). The currently edited item will be highlighted. Similarly, you can set the subsequent zones.

If you want to have identical settings for the other days of the week, click .

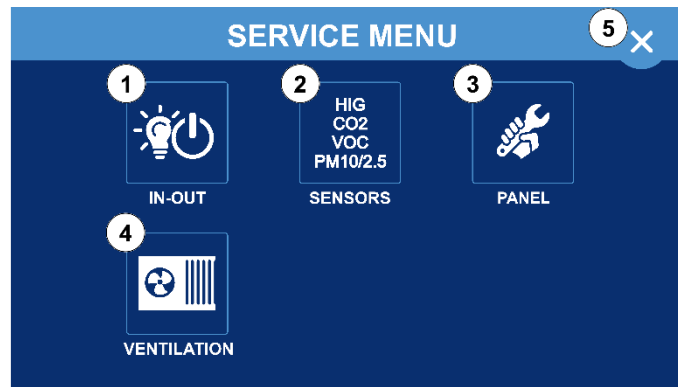
A window with the days of the week will open. Select the items to which you want to copy the settings and click .

## 2.18. SERVICE MENU

When you click on the SERVICE button in the main menu, the screen for setting the access code appears.

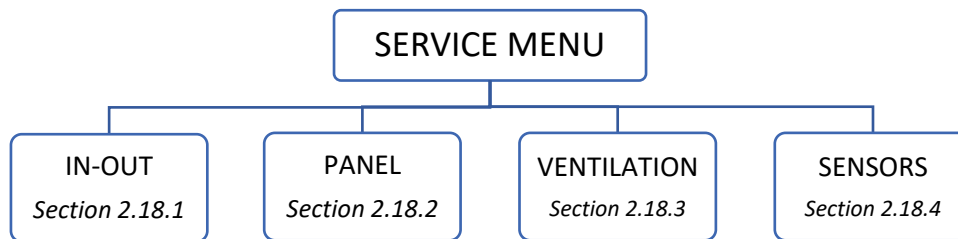
**NOTE:** When code **99** is entered, the service menu screen with user parameters will be displayed, while when the **199** code is entered, parameters for the service technician/installer will also be available.

After entering the code, the following service menu screen will be displayed.



- |   |  |                                                                             |   |  |                          |
|---|--|-----------------------------------------------------------------------------|---|--|--------------------------|
| 1 |  | IN-OUT settings. Configuration EX4 module of additional inputs and outputs. | 4 |  | Ventilation settings.    |
| 2 |  | Sensor settings.                                                            | 5 |  | Exit to the main screen. |
| 3 |  | Control panel settings.                                                     |   |  |                          |

Below, a diagram of the service menu structure is shown:



### 2.18.1. IN-OUT

#### **EX4 module support**

Enables operation with an additional VEX4 module.

#### **EX4 – D1 input config**

Configures D1/D2 input settings

- None – input not supported, will not be displayed on the outputs screen.
- Info only – the input status will only be displayed on the outputs screen.
- Info+alarm – the input status will be displayed on the output screen and the main screen.

#### **EX4 - T1/T2 input config**

Configures T1/T2 input settings

- None – input not supported, will not be displayed on the outputs screen.
- Info only – the input status will only be displayed on the outputs screen.
- Info+alarm – the input status will be displayed on the output screen and the main screen.
- Temperature – an input configured to measure temperature.

### 2.18.2. PANEL

#### **PANEL number**

This parameter allows you to set the panel number. Each control panel in the C14 network must have a unique number. Range: 1.....10.

#### **Set temp. in comfort mode**

Sets the comfort temperature.

#### **Set temp. in eco mode (winter)**

Sets the preset eco temperature when the WINTER mode is on.

**Set temp. in eco mode (cooling)**

Sets the preset eco temperature when the COOLING mode is enabled.

**Set temp. in manual mode**

Sets the preset temperature for manual operation.

**Set temp. in away mode**

Sets the preset temperature for the AWAY MODE and VACATIONS.

**Thermostat adjustment**

It is used to correct the temperature measurement in the room. Range: -10...+10°C.

**Thermostat hysteresis**

The thermostat hysteresis function prevents unnecessary activating of heating, if there are small temperature fluctuations. The greater the value of the hysteresis, the longer the cycles of the heating. Set-point range: 0.1...10.0°C.

**Winter/summer change method**

You can choose from any of the following options:

- Manual – the user changes the heating season setting individually.
- According to on the outside temperature:
  - when the thermostat is in WINTER mode, if the outside temperature rises above the set value it will automatically change to the SUMMER mode.
  - when the thermostat is in SUMMER mode, if the outside temperature drops below the set value it will automatically change to the WINTER mode.
- According to the average temperature 1 – measurement every 1 minute. When this option is selected, the measurements are averaged over the last 2.5 hours:
  - when the thermostat is in the WINTER mode, an increase in the average outside temperature above the set value causes an automatic change to the SUMMER mode.
  - when the thermostat is in SUMMER mode, a drop of the average daily outside temperature below the set value causes an automatic change to the WINTER mode.
- According to the average temperature 2 – measuring every 10 minutes. When this option is selected, the measurements are averaged over the last 24 hours:
  - when the thermostat is in the WINTER mode, an increase in the average outside temperature above the set value causes an automatic change to the SUMMER mode.
  - when the thermostat is in SUMMER mode, a drop of the average daily outside temperature below the set value causes an automatic change to the WINTER mode.

**Ventilation easy mode operation**

When switched on, the main screen displays a row of buttons to control ventilation.

**Control S2 / E1**

Enables activation of the E1 module relay control button.

- Not displayed – the E1 module relay control button is not displayed on the main screen.
- Zone S2 – activates the zone control button. When operating in zone II, the ventilation capacity is reduced by the value set in the SPEED CORRECTION ZONE S2 parameter.
- Przycisk E1 – aktywuje przycisk sterowania przekaźnikiem modułu E1 w funkcji ON/OFF.

**Screen saver**

This parameter enables activating a screen saver, which displays the time and temperature in the room.

**Permission to edit texts**

Permission to edit texts. Selecting this option enables editing the descriptions regarding outputs of the EX4 module and the names of heating circuits.

**Main info**

Displaying information on the main screen (main screen - position 10):

- Room – displays the currently measured room temperature.
- Air supply – displays the current ventilation airflow temperature.
- Air exhaust – displays the current ventilation exhaust temperature.

**Thermostat function**

You can choose from any of the following options:

- Off – AWENTA CONTROL does not perform thermostat function.
- Heating – only the heating function is performed.

- Cooling – only the cooling function is performed.
- Heating + cooling – the heating and cooling functions are performed.

**Return to factory defaults**

Resets all settings and presets to factory default values.

**MODBUS address**

Device address in the RS-485 MODBUS network (default setting: 44).

**2.18.3. WENTYLACJA**

**Service parameters ->** service code access

**Away mode config**

Sets the operation of fans in the AWAY MODE and VACATION.

- Non stop – the fan runs all the time
- 30 minutes work/30 minutes stop (the unit starts up 30 minutes before the full hour)
- 20 minutes work/40 minutes stop (the unit starts up 20 minutes before the full hour)
- 20 minutes work/100 minutes stop (the unit starts up 20 minutes before the full odd hour)

**Supply and exhaust fan settings**

The parameters below define the capacity of the supply and exhaust fans at each speed.

- |                              |                               |
|------------------------------|-------------------------------|
| • Supply fan speed in gear 1 | • Exhaust fan speed in gear 1 |
| • Supply fan speed in gear 2 | • Exhaust fan speed in gear 2 |
| • Supply fan speed in gear 3 | • Exhaust fan speed in gear 3 |
| • Supply fan during airing   | • Exhaust fan during airing   |

**Air supply min. temperature**

When the air supply temperature is below the value set for this parameter, the controller will switch the supply off. Set-point range: 0...50°C. Applies to operation in WINTER-HEATING mode.

**Air supply max. temperature**

Limitation of the maximum air supply temperature. Set-point range: 0...50°C. Applies to operation in WINTER-HEATING mode.

**Secondary heater control**

If this option is enabled, the reheater will operate in the PWM mode.

**Airing time**

Sets the activation time for the ventilation function activated via the DI2 input or the VENTILATION button on the AWENTA CONTROL panel.

- 0 – operation ON/OFF.
- 1 – 100 – turns the fan on for the preset time in minutes.

**Show fireplace mode**

Activates the WORK WITH FIREPLACE icon on the main screen of the AWENTA CONTROL panel.

**Fireplace mode speed correction**

Sets the increase in the supply fan rpm relative to the exhaust fan by the value set in this parameter.

**Gear correction from sensors**

Enabling this option increases the speed of the supply and exhaust fans on detecting the exceedance of the permissible levels by the sensors.

**Speed correction zone S2**

Sets the percentage reduction in ventilation output while zone II is active.

**CSF system flow control**

Activating the operating option of the balance flow for supply and extract air (Constant Flow).

**NOTE:** Function only available on models with the CF module.

**Service -> Secondary heater control type**

The supply air temperature is controlled by one of the following methods:

- room temperature function
- supply temperature function
- exhaust temperature function

**Serwis -> Pre-heater lock temperature**

Specifies the maximum temperature of the air intake at which the preheater will be activated.

**Service -> Minimum temperature before heat exchanger**

Defines the minimum air temperature upstream the recuperator. If the temperature drops below the setpoint, the preheater will be activated according to the selected operation mode. A setting of -10°C disables the function.

**Service -> Temperature range before heat exchanger**

Determines the temperature for which the output of the secondary heater is continuously controlled.

**Service -> Secondary heater power correction**

It defines the temperature for which the power of the post-heater is smoothly regulated.

**Service -> Fans powerdown time**

This parameter defines the delay for the fans to switch off. This delay ensures that the heaters are cooled down or that cold is received from the cooler, when the unit is switched off. Set-point range: 0-100 seconds.

**Serwis -> Filter cleaning period**

This parameter sets the time after which a message will be displayed indicating that the filters need to be replaced.

Setting 0 disables the option. The setting range is 1-365 days.

To reset the counter, click the FILTER REPLACEMENT button in the main menu and then confirm.

**Service -> Thawing temperature**

If the temperature measured at the exhaust duct is lower than that set in this parameter the controller initiates the defrosting procedure with the selected defrosting method.

**Service -> Thawing hysteresis**

Determines the temperature for which the preheater power is continuously adjusted during defrosting of the exchanger.

**Service -> Thawing method**

Air handling unit defrosting can be done in one of the following ways:

- FAN OFF (supply air)
- HEATER – preheater is switched on
- HEATER + FAN (preheater is switched on + supply fan 50% efficiency)
- BY-PASS – the by-pass is opened

**NOTE: The defrosting method by opening the bypass flap is only effective for left-hand configuration control units.**

**Serwis -> Funkcja przekaźnika R3**

Configuration of R3 relay function:

- Ground heat ext. – control of the ground heat exchanger flap.
- Central heating – activation when the heating icon appears.
- Throttle – control of the damper that cuts off the cold air supply when the device is switched off.
- Not connector – relay not active.

**Service -> Input DI2 function**

- AIRING – Active ventilation mode turns on all fans at 100% power.  
Mode it can be configured to work ON/OFF or to be turned on for a set time.
- EXTRACTOR – Active extractor mode reduces the exhaust fan speed by 1.

**Serwis -> Ground heat exchanger winter**

The external temperature above which the GWC will switch off in winter. Standard setting: 8°C.

The GWC will switch back on when the temperature drops 1°C below the set value.

**Serwis -> Ground heat exchanger summer**

The external temperature below which the GWC is switched off in summer. Standard setting: 22°C.

The GWC is switched on again when the temperature rises 1°C above the set value.

**Service -> Threshold for auto BY-PASS operation**

The outside (air intake) temperature that allows the BY-PASS to open with the automatic BY-PASS operation. Set-point range: -22...+60°C.

**Serwis -> Heat exchanger drying time**

This parameter determines the duration of the dehumidification cycle. The dehumidification cycle starts 1 minute after switching to AWAY mode, when the air intake temperature is below 10°C. The dehumidification cycle is repeated every 12 hours. During dehumidification, the exhaust fan operates at 100% and the supply fan at 30%. Adjustment range: 0–45 minutes.

**Serwis -> Type exchanger**

- Standard – air handling unit with standard heat exchanger
- Enthalpic – air handling unit with heat exchanger with moisture recovery

**NOTE:** If the parameter is not adjusted to the type of exchanger, the device may not work properly.

**2.18.4 SENSORS****Basic temperature sensor**

This feature allows you to replace the primary sensor built into the control panel with an additional VSPM, VSHC, or VSHW sensor. This feature is intended for use when the control panel's location prevents accurate temperature or humidity readings.

**Start airing CO2 exceeded (PPM)**

Specifies the level of CO2 concentration in the air, after which the fan speed is increased by 1 step. A VSPM or VSHC sensor is required for the function to work properly.

**Stop airing CO2 exceeded (PPM)**

It determines the level of CO2 concentration in the air after it has dropped and the fan speed returns to normal operation. A VSPM or VSHC sensor is required for the function to work properly.

**Start wietrzenia – Przekroczony VOC (PPM)**

Function disabled.

**Stop airing VOC exceeded (PPM)**

Function disabled.

**Start drying PANEL own sensor**

Defines the level of humidity beyond which the fan speed is increased by 1 step.

**Stop drying PANEL own sensor**

Sets the humidity level beyond which the fan speed returns to normal operation.

**Start humidification PANEL own sensor**

When the set humidity value is exceeded, the E1 module relay (sold separately) is activated to control the air humidifier.

**Stop humidification PANEL own sensor**

When the humidity drops below the set point, the relay of the E1 module (sold separately) to control the air humidifier is switched off.

**Start PM1.0 sensor SPM**

Specifies the level of PM1.0 particle concentration, beyond which the fan speed increases. A VSPM sensor is required for the function to work properly.

**Start PM2.5 sensor SPM**

Specifies the level of PM2.5 particle concentration, beyond which the fan speed increases. A VSPM sensor is required for the function to work properly.

**Start PM4.0 sensor SPM**

Specifies the level of PM4.0 particle concentration, beyond which the fan speed increases. A VSPM sensor is required for the function to work properly.

**Start PM10.0 sensor SPM**

Specifies the level of PM10.0 particle concentration, beyond which the fan speed increases. A VSPM sensor is required for the function to work properly.

**PM hysteresis SPM sensor**

It determines how much PPM the concentration of PM particles in the air must drop in relation to the starting values, so that the ventilation operation returns to the preset settings.

**Start drying SPM sesnor**

Defines the level of humidity beyond which the fan speed is increased by 1 step.

**Stop drying SPM sesnor**

Sets the humidity level beyond which the fan speed returns to normal operation.

**Start humidification SPM sensor**

When the set humidity value is exceeded, the E1 module relay (sold separately) is activated to control the air humidifier.

**Stop humidification SPM sensor**

When the humidity drops below the set point, the relay of the E1 module (sold separately) to control the air humidifier is switched off.

**LED signalization SPM sesnor**

Shows how the LED lights up. There are options to choose from:

- LED standby - a lit LED means that the sensor is working
- Thermostat threshold - blinking diode means exceeded thermostat settings.
- Sensor threshold - blinking diode means exceeding the sensor settings (humidity, CO2, PM)

**LED brightness SPM sensor**

Specifies the level of LED lighting.

**Start drying sensor no 6, 7, 8, 9**

Defines the level of humidity beyond which the fan speed is increased by 1 step.

**Stop drying sensor no 6, 7, 8, 9**

Sets the humidity level beyond which the fan speed returns to normal operation.

**Start humidification sensor no 6, 7, 8, 9**

When the set humidity value is exceeded, the E1 module relay (sold separately) is activated to control the air humidifier.

**Stop humidification sensor no 6, 7, 8, 9**

When the humidity drops below the set point, the relay of the E1 module (sold separately) to control the air humidifier is switched off.

**LED signalization sensor no 6, 7, 8, 9**

Shows how the LED lights up. There are options to choose from:

- LED standby - a lit LED means that the sensor is working
- Thermostat threshold - blinking diode means exceeded thermostat settings.
- Sensor threshold - blinking diode means exceeding the sensor settings (humidity, CO2, PM)

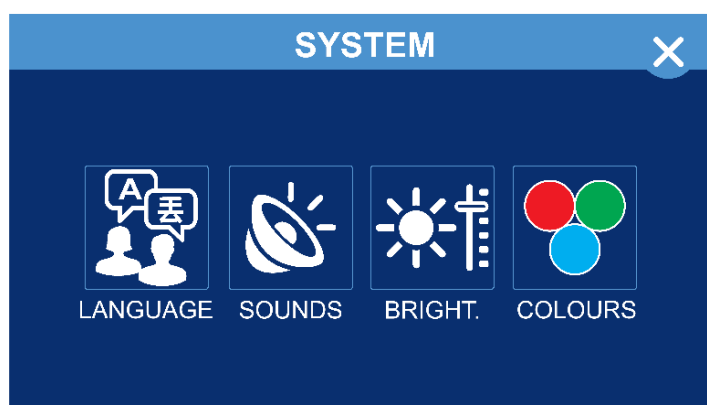
**LED brightness sensor no 6, 7, 8, 9**

Specifies the level of LED lighting.

## 2.19 SYSTEM

System settings include the following options:

- Language selection
- Sounds – option to disable alarm signals and buttons
- Brightness – screen brightness setting in edit mode and standby mode
- Colour – background colour and frame colour setting



## 3. WIRELESS NETWORK

The AWENTA CONTROL control panel can also be connected when a cable connection is not possible. In this case, DELTA radio converters should be used. Two converters must be used for proper operation. For the connection method, refer to the CONNECTION DIAGRAMS section.

#### 4. MODBUS RTU PROTOCOL CONFIGURATION

MODBUS RTU communication settings:

- Default device address Modbus SLAVE: 44
- Transmission speed (BAUDRATE): 9600 bps
- Amount of data (DATA BITS): 8
- Stop bits (STOP BITS): 1
- Parity (PARITY): brak (NONE)

Detailed information on the installation via the MODBUS protocol can be found on the website [www.awentapro.pl/dopobrania](http://www.awentapro.pl/dopobrania)

#### 5. VLAN iNEXT INTERNET MODULE

The iNEXT internet module allows remote control of the air handling unit. The control can be performed via a web browser. The method of connecting the iNEXT module is presented in the CONNECTION DIAGRAMS section.

NOTE: Connection via a web browser besides basic functions also gives access to service parameters of the device.

##### **Configuration of the VLAN iNEXT Internet module**

###### **– control via a web browser**

1. In order to properly use the iNEXT Internet system the user has to register and create an account at the website <https://inext.compit.pl>
2. To register a new user account click the “Register” button, the page will automatically load the registration form.
3. After completing the registration process click the “ADD GATEWAY” button which will be displayed on the welcome page or in the menu on the left side click “GATEWAYS” and then “ADD GATEWAY”.
4. Enter the code found on the rating sticker of the iNEXT VLAN Internet module in the “GATEWAY CODE” field.
5. After entering a correct gateway code, additional fields will be revealed. After clicking in the “CHOOSE MANUFACTURER” field, select “AWENTA PRO” from the list, and in the “INSERT NAME” field enter any name of your device.
- \* Additionally tick the “MASTER OPERATION” field.
6. After clicking the “ADD GATEWAY” command a window for device addition appears. Select “AWENTA CONTROL” as the device type and enter 41 in the standard field.

**iNEXT v1.0**  
 MAC 0A:07:DS:02:22:3D  
**KOD 2FGEB91A0665**  
 PROD. 2019-01

Detailed information on how to install and use the iNEXT VLAN Internet module can be found at [www.awentapro.pl/dopobrania](http://www.awentapro.pl/dopobrania)

##### **iNEXT VLAN internet module configuration – control via the AWENTA PRO**

1. Go to Google Play (Android) or the App Store (iOS) and search for the AWENTA PRO application.
2. Download and install the AWENTA PRO application.
3. Launch the AWENTA PRO application.
4. Enter your account email address and the correct password.
5. A screen with installation settings will appear, which you can adjust to your needs.

##### **REGISTRATION:**

If you do not have an account, you must first register.

6. To register, click SING UP, then enter your email address and your login password twice.
7. In the next step, enter the ‘Gate code’ and then click ADD.

06:46   

**Awenta PRO**

**Log in to your account**

[Forgot password](#)

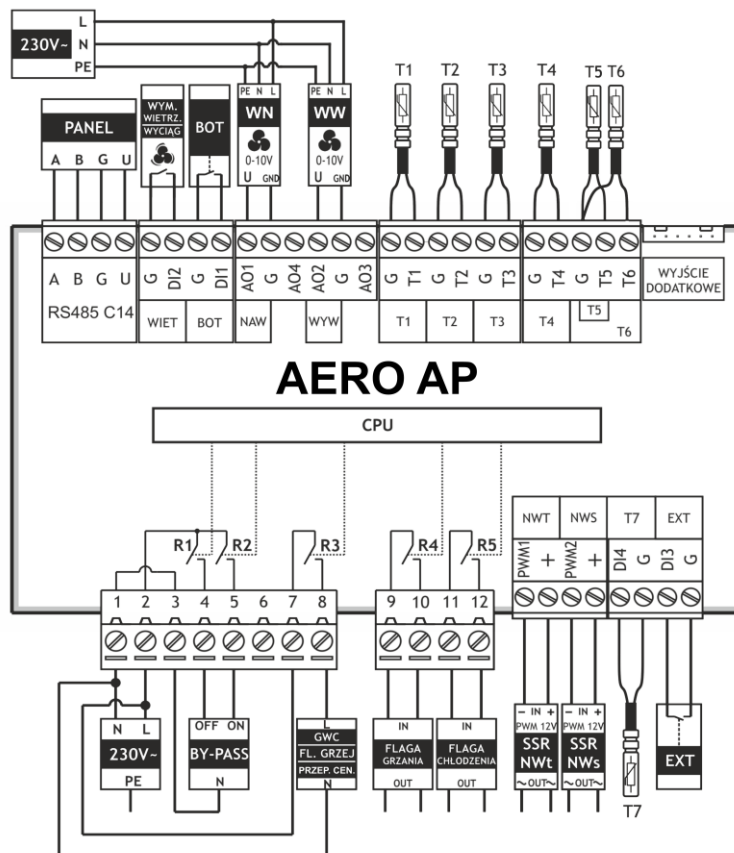
☐ Remember login details ☒

**LOGIN**

Don't have an account? [Sign up](#)

## 6. WIRING DIAGRAMS

### 6.1 ELECTRICAL DIAGRAM OF THE AERO AP CONTROLLER



R1 – BY-PASS zamykanie

R2 – BY-PASS otwieranie

R3 – GHE, heating flag or damper (depending on configuration)

R4 – heating signal (room is overcooled in WINTER mode)

R5 – cooling signal (room is overheated in COOLING mode)

PWM1 – digital PWM output (-) for connecting the SSR relay of the secondary heater

PWM2 – digital PWM output (-) for connecting the SSR relay of the preheater

AO1 – supply fan

AO2 – exhaust fan

#### Inputs:

DI1 – temperature limiter (**When the unused DI1 input should be shorted with G**)

DI2 – forced ventilation or extraction (depending on configuration)

DI3 – digital input of the external device signal (e.g. control panel) to switch ventilation into the AWAY MODE (depending on configuration).

#### Sensors:

T1 – external temperature sensor

T2 – supply temperature sensor

T3 – discharge temperature sensor

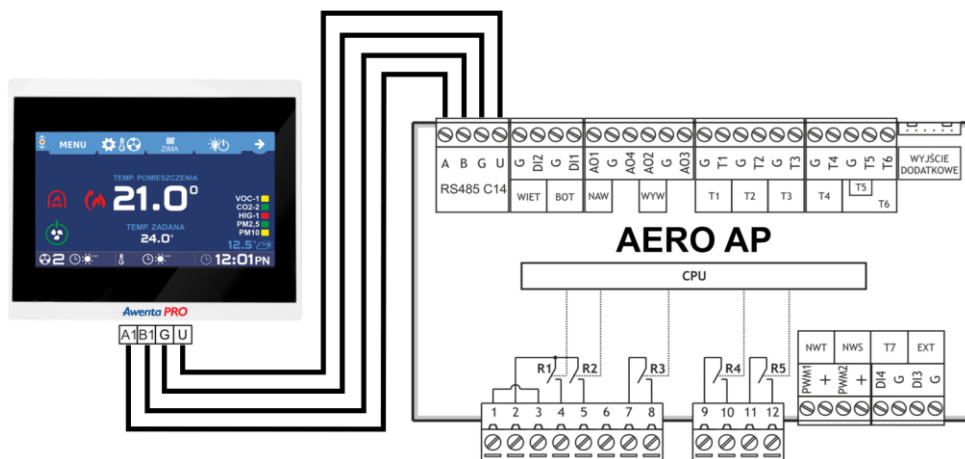
T4 – exhaust temperature sensor

T5 – temperature sensor behind the preheater

T6 – czujnik temperatury zewnętrznej przed GWC

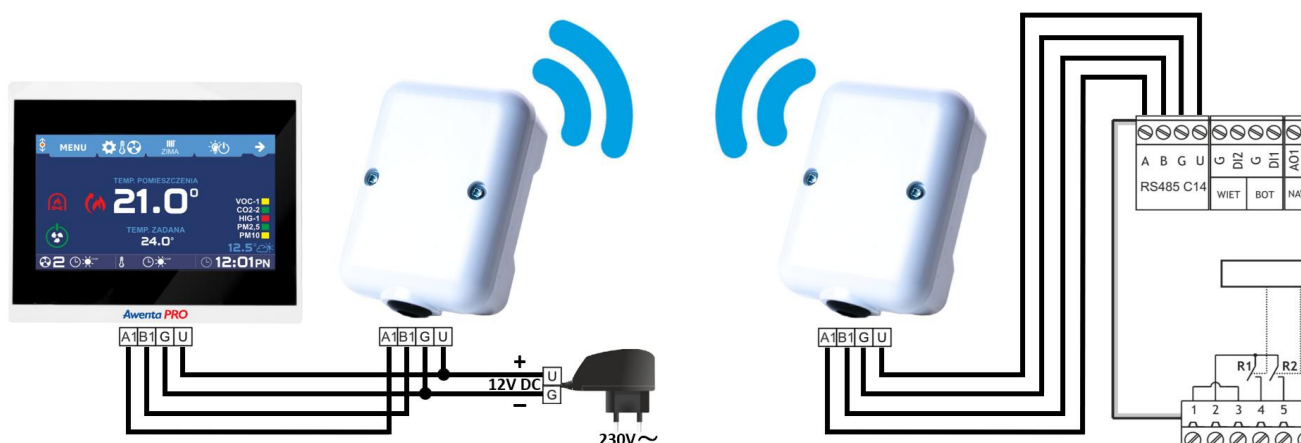
T7 – czujnik temperatury za nagrzewnica wtórną (wymagany do sterowania nagrzewnica wtórną)

## 6.2. CONNECTING THE AWENTA CONTROL PANEL

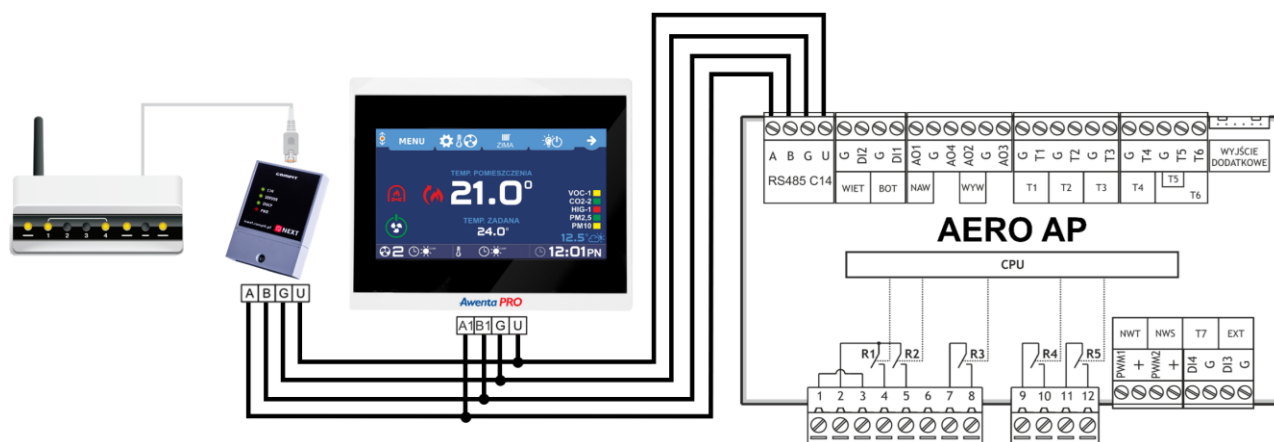


**Note!** The AERO controller works only with AWENTA CONTROL with number 1.

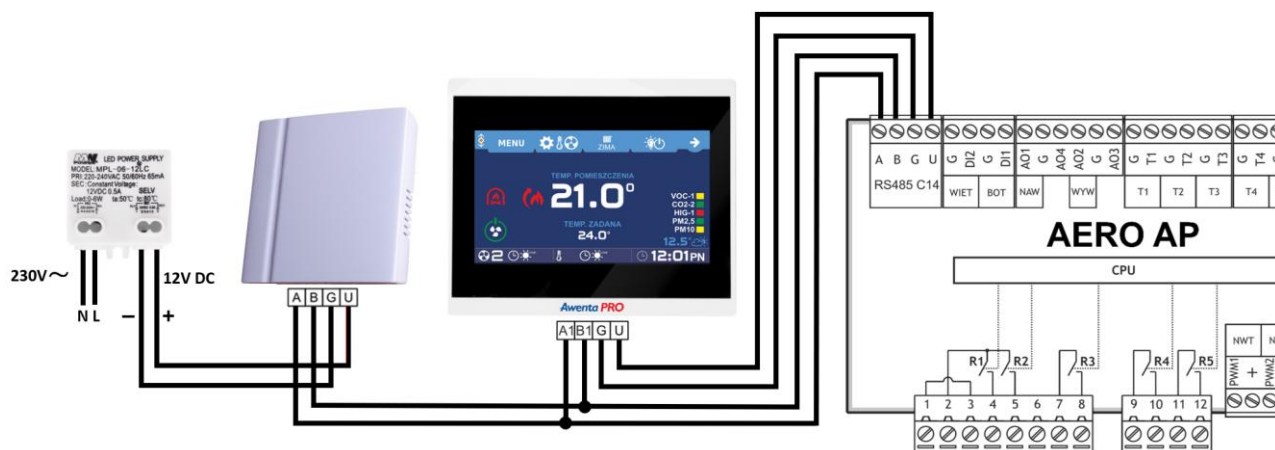
## 6.3. CONNECTING THE AWENTA CONTROL PANEL WITH DELTA CONVERTERS



## 6.4. CONNECTING THE AWENTA CONTROL PANEL WITH THE iNEXT VLAN INTERNET MODULE

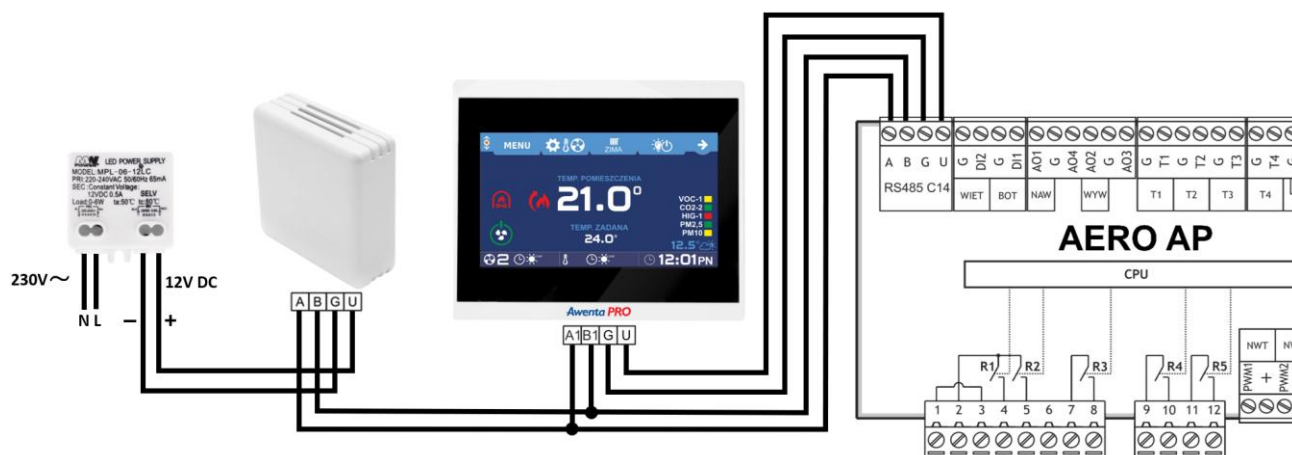


## 6.5. CONNECTING THE AWENTA CONTROL PANEL WITH VSPM AIR QUALITY SENSOR



**Note!** Only one VSPM sensor can be connected to the device.

## 6.6. CONNECTING THE AWENTA CONTROL PANEL WITH THE VSHW SENSOR

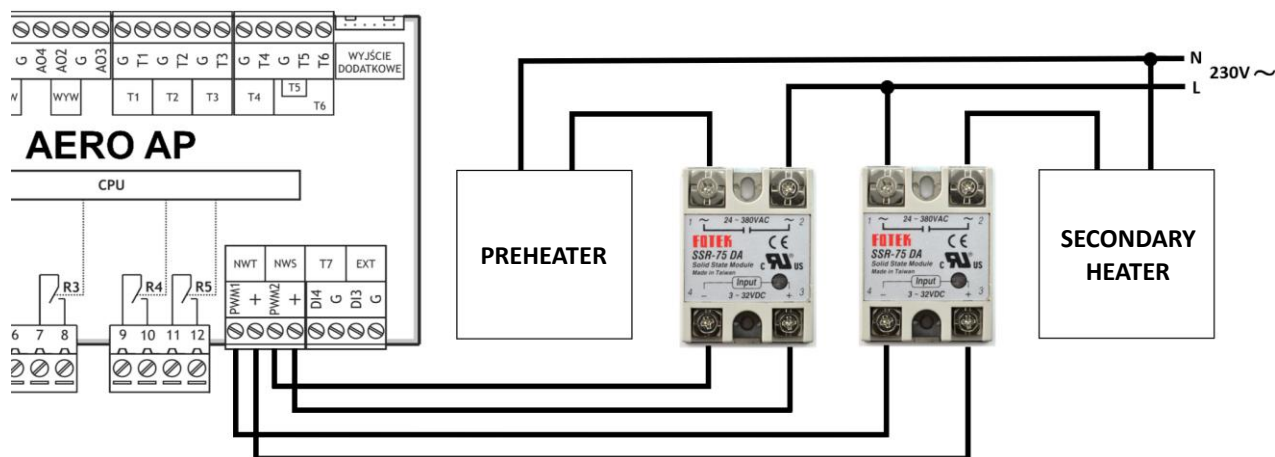


## 6.7. CONNECTING THE AWENTA CONTROL PANEL WITH THE VSHW and VSHC or VSPM SENSOR



**Note!** Up to 4 VSHC or VSHW sensors and one VACS-1 sensor can be connected to the device.

## 6.8. CONNECTING THE PRIMARY/SECONDARY HEATER



### Note!

The reheater power supply should be from an external source (do not use connectors inside the air handling unit). The reheater should be installed in the ventilation duct outside the unit.

Dane energetyczne wg załącznika IV ROZPORZĄDZENIA KOMISJI (UE) NR 1254/2014  
Energy data according to IV COMMISSION REGULATION (EU) No 1254/2014

|                                                               |                                                                                            |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Nazwa dostawcy / Supplier's name                              | AWENTA E.W.A. Chomka Spółka Jawna<br>05-300 Mińsk Mazowiecki<br>Stojadła ul. Warszawska 99 |
| Identyfikator modelu producenta / Supplier's model identifier | VAH305, VAH305, VAH305CF, VAH305CF                                                         |

| Jednostkowe Zużycie Energii JZE / klasa [kWh/m <sup>2</sup> /rok] / Specific Energy Consumption class SEC / class [kWh/m <sup>2</sup> /yr] |                  |                         |               |
|--------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------------------|---------------|
| Rodzaj sterowania<br>Type of control                                                                                                       | Klimat / Climate |                         |               |
|                                                                                                                                            | Chłodny / Cold   | Umiarkowany / Temperate | Ciepły / Warm |
| Centralne sterowanie według zapotrzebowania*<br>/ Central control by demand*                                                               | -78,5 / A+       | -39,8 / A               | -15,0 / E     |
| Lokalne sterowanie według zapotrzebowania**<br>/ Local control by demand**                                                                 | -82,3 / A+       | -42,9 / A+              | -17,7 / E     |

|                                                                                                                                                                                                                        |                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Deklarowany typ / Declared type                                                                                                                                                                                        | SWM dwukierunkowy / UVR bidirectional                                                                                                                  |
| Rodzaj napędu / Type of drive                                                                                                                                                                                          | Bezstopniowy / Stepless                                                                                                                                |
| Rodzaj układu odzysku ciepła / Type of heat recovery system                                                                                                                                                            | Przeponowy / Membranous                                                                                                                                |
| Sprawność cieplna odzysku ciepła / Thermal efficiency of heat recovery at reference air flow                                                                                                                           | 89,4 %                                                                                                                                                 |
| Maksymalna wartość natężenia przepływu / Maximum flow rate                                                                                                                                                             | 317 [m <sup>3</sup> /h]                                                                                                                                |
| Pobór mocy napędu wentylatora, w tym wszystkich układów sterowania silnika, przy maksymalnym natężeniu przepływu<br>Electric power input of the fan drive, including any motor control equipment, at maximum flow rate | 130 W                                                                                                                                                  |
| Poziom mocy akustycznej (L <sub>WA</sub> ), (przy maksymalnej wydajności)<br>/ Sound power level (L <sub>WA</sub> ), (at maximum air flow)                                                                             | 55 dB(A)                                                                                                                                               |
| Wartość odniesienia natężenia przepływu / Reference flow rate                                                                                                                                                          | 0,062 m <sup>3</sup> /s                                                                                                                                |
| Wartość odniesienia różnicy ciśnienia / Reference pressure difference                                                                                                                                                  | 50 Pa                                                                                                                                                  |
| Jednostkowy pobór mocy JPM / Specific Power Input SPI                                                                                                                                                                  | 0,26 W/(m <sup>3</sup> /h)                                                                                                                             |
| Czynnik rodzaju sterowania / Control factor                                                                                                                                                                            | 0,85 *                                                                                                                                                 |
|                                                                                                                                                                                                                        | 0,65 **                                                                                                                                                |
| Rodzaj sterowania / Control typology                                                                                                                                                                                   | Centralne sterowanie według zapotrzebowania* / Central control by demand *<br>Lokalne sterowanie według zapotrzebowania** / Local control by demand ** |
| Deklarowany współczynnik maksymalnych wewnętrznych przecieków powietrza MISC / Maximum internal leakage rates MISC                                                                                                     | 1,9 %                                                                                                                                                  |
| Deklarowany współczynnik maksymalnych zewnętrznych przecieków powietrza MISC / Maximum external leakage rates MISC                                                                                                     | 0,9 %                                                                                                                                                  |
| Stopień mieszania / Mixing rate                                                                                                                                                                                        | Nie dotyczy / Not applicable                                                                                                                           |
| Umieszczenie i opis mechanizmu wizualnego ostrzeżenia o konieczności wymiany filtra / Position and description of visual filter warning                                                                                | Ostrzeżenie na wyświetlaczu urządzenia / Warning on the device display                                                                                 |
| Adres strony internetowej / Internet address                                                                                                                                                                           | www.awentapro.pl                                                                                                                                       |
| Podatność przepływu powietrza na zmiany ciśnienia +20Pa i -20Pa<br>Airflow sensitivity to pressure variations at +20Pa and -20Pa                                                                                       | Nie dotyczy / Not applicable                                                                                                                           |
| Szczelność między wnętrzem i obszarem na zewnątrz budynku / Indoor / outdoor air tightness                                                                                                                             | Nie dotyczy / Not applicable                                                                                                                           |

| Roczne zużycie energii RZE [kWh/rok] / Annual Energy Consumption [kWh/yr]<br>Roczna oszczędność w ogrzewaniu ROO [kWh/rok] / Annual heating saving [kWh/yr] |                  |        |                         |        |               |        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------|-------------------------|--------|---------------|--------|
| Rodzaj sterowania<br>Type of control                                                                                                                        | Klimat / Climate |        |                         |        |               |        |
|                                                                                                                                                             | Chłodny / Cold   |        | Umiarkowany / Temperate |        | Ciepły / Warm |        |
|                                                                                                                                                             | RZE              | ROO    | RZE                     | ROO    | RZE           | ROO    |
| Centralne sterowanie według zapotrzebowania*<br>/ Central control by demand *                                                                               | 817,6            | 9025,1 | 280,6                   | 4613,4 | 235,6         | 2083,7 |
| Lokalne sterowanie według zapotrzebowania**<br>/ Local control by demand **                                                                                 | 782,0            | 9149,1 | 245,0                   | 4676,8 | 200,0         | 2114,8 |

\* wyposażenie standardowe z panelem AWENTA CONTROL / standard equipment with AWENTA CONTROL panel

\*\* wyposażenie opcjonalne z dodatkowym czujnikiem CO<sub>2</sub> lub czujnikiem wilgotności / optional equipment with additional CO<sub>2</sub> or humidity sensor

Dane energetyczne wg załącznika IV ROZPORZĄDZENIA KOMISJI (UE) NR 1254/2014  
Energy data according to IV COMMISSION REGULATION (EU) No 1254/2014

|                                                                      |                                                                                            |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Nazwa dostawcy / <i>Supplier's name</i>                              | AWENTA E.W.A. Chomka Spółka Jawna<br>05-300 Mińsk Mazowiecki<br>Stojadła ul. Warszawska 99 |
| Identyfikator modelu producenta / <i>Supplier's model identifier</i> | VAH305E, VAH305E, VAH305CFE, VAH305CFE                                                     |

| Jednostkowe Zużycie Energii JZE / klasa [kWh/m <sup>2</sup> /rok] / <i>Specific Energy Consumption class SEC / class [kWh/m<sup>2</sup>/yr]</i> |                         |                                |                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------|----------------------|
| Rodzaj sterowania<br><i>Type of control</i>                                                                                                     | Klimat / <i>Climate</i> |                                |                      |
|                                                                                                                                                 | Chłodny / <i>Cold</i>   | Umiarkowany / <i>Temperate</i> | Ciepły / <i>Warm</i> |
| Centralne sterowanie według zapotrzebowania*<br><i>/ Central control by demand*</i>                                                             | -75,7 / A+              | -38,5 / A                      | -14,5 / E            |
| Lokalne sterowanie według zapotrzebowania**<br><i>/ Local control by demand**</i>                                                               | -80,1 / A+              | -41,9 / A                      | -17,3 / E            |

|                                                                                                                                                                                                                               |                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Deklarowany typ / <i>Declared type</i>                                                                                                                                                                                        | SWM dwukierunkowy / <i>UVR bidirectional</i>                                                                                                                       |
| Rodzaj napędu / <i>Type of drive</i>                                                                                                                                                                                          | Bezstopniowy / <i>Stepless</i>                                                                                                                                     |
| Rodzaj układu odzysku ciepła / <i>Type of heat recovery system</i>                                                                                                                                                            | Przeponowy / <i>Membranous</i>                                                                                                                                     |
| Sprawność cieplna odzysku ciepła / <i>Thermal efficiency of heat recovery at reference air flow</i>                                                                                                                           | 83,5 %                                                                                                                                                             |
| Maksymalna wartość natężenia przepływu / <i>Maximum flow rate</i>                                                                                                                                                             | 317 [m <sup>3</sup> /h]                                                                                                                                            |
| Pobór mocy napędu wentylatora, w tym wszystkich układów sterowania silnika, przy maksymalnym natężeniu przepływu<br><i>Electric power input of the fan drive, including any motor control equipment, at maximum flow rate</i> | 125 W                                                                                                                                                              |
| Poziom mocy akustycznej (L <sub>WA</sub> ), (przy maksymalnej wydajności)<br><i>/ Sound power level (L<sub>WA</sub>), (at maximum air flow)</i>                                                                               | 55 dB(A)                                                                                                                                                           |
| Wartość odniesienia natężenia przepływu / <i>Reference flow rate</i>                                                                                                                                                          | 0,062 m <sup>3</sup> /s                                                                                                                                            |
| Wartość odniesienia różnicy ciśnienia / <i>Reference pressure difference</i>                                                                                                                                                  | 50 Pa                                                                                                                                                              |
| Jednostkowy pobór mocy JPM / <i>Specific Power Input SPI</i>                                                                                                                                                                  | 0,25 W/(m <sup>3</sup> /h)                                                                                                                                         |
| Czynnik rodzaju sterowania / <i>Control factor</i>                                                                                                                                                                            | 0,85 *                                                                                                                                                             |
|                                                                                                                                                                                                                               | 0,65 **                                                                                                                                                            |
| Rodzaj sterowania / <i>Control typology</i>                                                                                                                                                                                   | Centralne sterowanie według zapotrzebowania* / <i>Central control by demand*</i><br>Lokalne sterowanie według zapotrzebowania** / <i>Local control by demand**</i> |
| Deklarowany współczynnik maksymalnych wewnętrznych przecieków powietrza MISC / <i>Maximum internal leakage rates MISC</i>                                                                                                     | 1,9 %                                                                                                                                                              |
| Deklarowany współczynnik maksymalnych zewnętrznych przecieków powietrza MISC / <i>Maximum external leakage rates MISC</i>                                                                                                     | 0,9 %                                                                                                                                                              |
| Stopień mieszania / <i>Mixing rate</i>                                                                                                                                                                                        | Nie dotyczy / <i>Not applicable</i>                                                                                                                                |
| Umieszczenie i opis mechanizmu wizualnego ostrzeżenia o konieczności wymiany filtra / <i>Position and description of visual filter warning</i>                                                                                | Ostrzeżenie na wyświetlaczu urządzenia / <i>Warning on the device display</i>                                                                                      |
| Adres strony internetowej / <i>Internet address</i>                                                                                                                                                                           | www.awentapro.pl                                                                                                                                                   |
| Podatność przepływu powietrza na zmiany ciśnienia +20Pa i -20Pa<br><i>Airflow sensitivity to pressure variations at +20Pa and -20Pa</i>                                                                                       | Nie dotyczy / <i>Not applicable</i>                                                                                                                                |
| Szczelność między wnętrzem i obszarem na zewnątrz budynku / <i>Indoor / outdoor air tightness</i>                                                                                                                             | Nie dotyczy / <i>Not applicable</i>                                                                                                                                |

| Roczne zużycie energii RZE [kWh/rok] / <i>Annual Energy Consumption [kWh/yr]</i><br>Roczna oszczędność w ogrzewaniu ROO [kWh/rok] / <i>Annual heating saving [kWh/yr]</i> |                         |        |                                |        |                      |        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------|--------------------------------|--------|----------------------|--------|
| Rodzaj sterowania<br><i>Type of control</i>                                                                                                                               | Klimat / <i>Climate</i> |        |                                |        |                      |        |
|                                                                                                                                                                           | Chłodny / <i>Cold</i>   |        | Umiarkowany / <i>Temperate</i> |        | Ciepły / <i>Warm</i> |        |
|                                                                                                                                                                           | RZE                     | ROO    | RZE                            | ROO    | RZE                  | ROO    |
| Centralne sterowanie według zapotrzebowania*<br><i>/ Central control by demand*</i>                                                                                       | 806,2                   | 8712,6 | 269,2                          | 4453,7 | 224,2                | 2013,9 |
| Lokalne sterowanie według zapotrzebowania**<br><i>/ Local control by demand**</i>                                                                                         | 713,1                   | 8918,2 | 176,1                          | 4558,8 | 131,1                | 2061,4 |

\* wyposażenie standardowe z panelem AWENTA CONTROL / *standard equipment with AWENTA CONTROL panel*

\*\* wyposażenie opcjonalne z dodatkowym czujnikiem CO<sub>2</sub> lub czujnikiem wilgotności / *optional equipment with additional CO<sub>2</sub> or humidity sensor*

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|                                                                      |                                                                                            |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Nazwa dostawcy / <i>Supplier's name</i>                              | AWENTA E.W.A. Chomka Spółka Jawna<br>05-300 Mińsk Mazowiecki<br>Stojadła ul. Warszawska 99 |
| Identyfikator modelu producenta / <i>Supplier's model identifier</i> | VAH405, VAH405, VAH405CF, VAH405CF                                                         |

| Jednostkowe Zużycie Energii JZE / klasa [kWh/m²/rok] / <i>Specific Energy Consumption class SEC / class [kWh/m²/yr]</i> |                         |                                |                      |
|-------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------|----------------------|
| Rodzaj sterowania<br><i>Type of control</i>                                                                             | Klimat / <i>Climate</i> |                                |                      |
|                                                                                                                         | Chłodny / <i>Cold</i>   | Umiarkowany / <i>Temperate</i> | Ciepły / <i>Warm</i> |
| Centralne sterowanie według zapotrzebowania*<br><i>/ Central control by demand*</i>                                     | -76,2 / A+              | -37,9 / A                      | -13,3 / E            |
| Lokalne sterowanie według zapotrzebowania**<br><i>/ Local control by demand**</i>                                       | -80,8 / A+              | -41,7 / A                      | -16,7 / E            |

|                                                                                                                                                                                                                               |                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Deklarowany typ / <i>Declared type</i>                                                                                                                                                                                        | SWM dwukierunkowy / <i>UVR bidirectional</i>                                                                                                                       |
| Rodzaj napędu / <i>Type of drive</i>                                                                                                                                                                                          | Bezstopniowy / <i>Stepless</i>                                                                                                                                     |
| Rodzaj układu odzysku ciepła / <i>Type of heat recovery system</i>                                                                                                                                                            | Przeponowy / <i>Membranous</i>                                                                                                                                     |
| Sprawność cieplna odzysku ciepła / <i>Thermal efficiency of heat recovery at reference air flow</i>                                                                                                                           | 87,8 %                                                                                                                                                             |
| Maksymalna wartość natężenia przepływu / <i>Maximum flow rate</i>                                                                                                                                                             | 413 [m³/h]                                                                                                                                                         |
| Pobór mocy napędu wentylatora, w tym wszystkich układów sterowania silnika, przy maksymalnym natężeniu przepływu<br><i>Electric power input of the fan drive, including any motor control equipment, at maximum flow rate</i> | 210 W                                                                                                                                                              |
| Poziom mocy akustycznej (L <sub>WA</sub> ), (przy maksymalnej wydajności)<br><i>/ Sound power level (L<sub>WA</sub>), (at maximum air flow)</i>                                                                               | 59 dB(A)                                                                                                                                                           |
| Wartość odniesienia natężenia przepływu / <i>Reference flow rate</i>                                                                                                                                                          | 0,08 m³/s                                                                                                                                                          |
| Wartość odniesienia różnicy ciśnienia / <i>Reference pressure difference</i>                                                                                                                                                  | 50 Pa                                                                                                                                                              |
| Jednostkowy pobór mocy JPM / <i>Specific Power Input SPI</i>                                                                                                                                                                  | 0,33 W/(m³/h)                                                                                                                                                      |
| Czynnik rodzaju sterowania / <i>Control factor</i>                                                                                                                                                                            | 0,85 *<br>0,65 **                                                                                                                                                  |
| Rodzaj sterowania / <i>Control typology</i>                                                                                                                                                                                   | Centralne sterowanie według zapotrzebowania* / <i>Central control by demand*</i><br>Lokalne sterowanie według zapotrzebowania** / <i>Local control by demand**</i> |
| Deklarowany współczynnik maksymalnych wewnętrznych przecieków powietrza MISC / <i>Maximum internal leakage rates MISC</i>                                                                                                     | 1,5 %                                                                                                                                                              |
| Deklarowany współczynnik maksymalnych zewnętrznych przecieków powietrza MISC / <i>Maximum external leakage rates MISC</i>                                                                                                     | 0,7 %                                                                                                                                                              |
| Stopień mieszania / <i>Mixing rate</i>                                                                                                                                                                                        | Nie dotyczy / <i>Not applicable</i>                                                                                                                                |
| Umieszczenie i opis mechanizmu wizualnego ostrzeżenia o konieczności wymiany filtra / <i>Position and description of visual filter warning</i>                                                                                | Ostrzeżenie na wyświetlaczu urządzenia / <i>Warning on the device display</i>                                                                                      |
| Adres strony internetowej / <i>Internet address</i>                                                                                                                                                                           | www.awentapro.pl                                                                                                                                                   |
| Podatność przepływu powietrza na zmiany ciśnienia +20Pa i -20Pa<br><i>Airflow sensitivity to pressure variations at +20Pa and -20Pa</i>                                                                                       | Nie dotyczy / <i>Not applicable</i>                                                                                                                                |
| Szczelność między wnętrzem i obszarem na zewnątrz budynku / <i>Indoor / outdoor air tightness</i>                                                                                                                             | Nie dotyczy / <i>Not applicable</i>                                                                                                                                |

| Roczne zużycie energii RZE [kWh/rok] / <i>Annual Energy Consumption [kWh/yr]</i>      |                         |        |                                |        |                      |        |
|---------------------------------------------------------------------------------------|-------------------------|--------|--------------------------------|--------|----------------------|--------|
| Roczna oszczędność w ogrzewaniu ROO [kWh/rok] / <i>Annual heating saving [kWh/yr]</i> |                         |        |                                |        |                      |        |
| Rodzaj sterowania<br><i>Type of control</i>                                           | Klimat / <i>Climate</i> |        |                                |        |                      |        |
|                                                                                       | Chłodny / <i>Cold</i>   |        | Umiarkowany / <i>Temperate</i> |        | Ciepły / <i>Warm</i> |        |
|                                                                                       | RZE                     | ROO    | RZE                            | ROO    | RZE                  | ROO    |
| Centralne sterowanie według zapotrzebowania*<br><i>/ Central control by demand*</i>   | 877,9                   | 8940,4 | 340,9                          | 4570,1 | 295,9                | 2066,5 |
| Lokalne sterowanie według zapotrzebowania**<br><i>/ Local control by demand**</i>     | 755,1                   | 9092,4 | 218,1                          | 4647,8 | 173,1                | 2101,7 |

\* wyposażenie standardowe z panelem AWENTA CONTROL / *standard equipment with AWENTA CONTROL panel*

\*\* wyposażenie opcjonalne z dodatkowym czujnikiem CO<sub>2</sub> lub czujnikiem wilgotności / *optional equipment with additional CO<sub>2</sub> or humidity sensor*

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|                                                                      |                                                                                            |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Nazwa dostawcy / <i>Supplier's name</i>                              | AWENTA E.W.A. Chomka Spółka Jawna<br>05-300 Mińsk Mazowiecki<br>Stojadła ul. Warszawska 99 |
| Identyfikator modelu producenta / <i>Supplier's model identifier</i> | VAH405E, VAH405E, VAH405CFE, VAH405CFE                                                     |

| Jednostkowe Zużycie Energii JZE / klasa [kWh/m <sup>2</sup> /rok] / <i>Specific Energy Consumption class SEC / class [kWh/m<sup>2</sup>/yr]</i> |                         |                                |                      |
|-------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------|----------------------|
| Rodzaj sterowania<br><i>Type of control</i>                                                                                                     | Klimat / <i>Climate</i> |                                |                      |
|                                                                                                                                                 | Chłodny / <i>Cold</i>   | Umiarkowany / <i>Temperate</i> | Ciepły / <i>Warm</i> |
| Centralne sterowanie według zapotrzebowania*<br><i>Central control by demand*</i>                                                               | -73,7 / A+              | -37,2 / A                      | -13,6 / E            |
| Lokalne sterowanie według zapotrzebowania**<br><i>Local control by demand**</i>                                                                 | -78,7 / A+              | -41,0 / A                      | -16,8 / E            |

|                                                                                                                                                                                                                               |                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Deklarowany typ / <i>Declared type</i>                                                                                                                                                                                        | SWM dwukierunkowy / <i>UVR bidirectional</i>                                                                                                                       |
| Rodzaj napędu / <i>Type of drive</i>                                                                                                                                                                                          | Bezstopniowy / <i>Stepless</i>                                                                                                                                     |
| Rodzaj układu odzysku ciepła / <i>Type of heat recovery system</i>                                                                                                                                                            | Przeponowy / <i>Membranous</i>                                                                                                                                     |
| Sprawność cieplna odzysku ciepła / <i>Thermal efficiency of heat recovery at reference air flow</i>                                                                                                                           | 80,90%                                                                                                                                                             |
| Maksymalna wartość natężenia przepływu / <i>Maximum flow rate</i>                                                                                                                                                             | 413 [m <sup>3</sup> /h]                                                                                                                                            |
| Pobór mocy napędu wentylatora, w tym wszystkich układów sterowania silnika, przy maksymalnym natężeniu przepływu<br><i>Electric power input of the fan drive, including any motor control equipment, at maximum flow rate</i> | 200 W                                                                                                                                                              |
| Poziom mocy akustycznej (L <sub>WA</sub> ), (przy maksymalnej wydajności)<br><i>Sound power level (L<sub>WA</sub>), (at maximum air flow)</i>                                                                                 | 59 dB(A)                                                                                                                                                           |
| Wartość odniesienia natężenia przepływu / <i>Reference flow rate</i>                                                                                                                                                          | 0,08 m <sup>3</sup> /s                                                                                                                                             |
| Wartość odniesienia różnicy ciśnienia / <i>Reference pressure difference</i>                                                                                                                                                  | 50 Pa                                                                                                                                                              |
| Jednostkowy pobór mocy JPM / <i>Specific Power Input SPI</i>                                                                                                                                                                  | 0,27 W/(m <sup>3</sup> /h)                                                                                                                                         |
| Czynnik rodzaju sterowania / <i>Control factor</i>                                                                                                                                                                            | 0,85 *<br>0,65 **                                                                                                                                                  |
| Rodzaj sterowania / <i>Control typology</i>                                                                                                                                                                                   | Centralne sterowanie według zapotrzebowania* / <i>Central control by demand*</i><br>Lokalne sterowanie według zapotrzebowania** / <i>Local control by demand**</i> |
| Deklarowany współczynnik maksymalnych wewnętrznych przecieków powietrza MISC / <i>Maximum internal leakage rates MISC</i>                                                                                                     | 1,5 %                                                                                                                                                              |
| Deklarowany współczynnik maksymalnych zewnętrznych przecieków powietrza MISC / <i>Maximum external leakage rates MISC</i>                                                                                                     | 0,7 %                                                                                                                                                              |
| Stopień mieszania / <i>Mixing rate</i>                                                                                                                                                                                        | Nie dotyczy / <i>Not applicable</i>                                                                                                                                |
| Umieszczenie i opis mechanizmu wizualnego ostrzeżenia o konieczności wymiany filtra / <i>Position and description of visual filter warning</i>                                                                                | Ostrzeżenie na wyświetlaczu urządzenia / <i>Warning on the device display</i>                                                                                      |
| Adres strony internetowej / <i>Internet address</i>                                                                                                                                                                           | www.awentapro.pl                                                                                                                                                   |
| Podatność przepływu powietrza na zmiany ciśnienia +20Pa i -20Pa<br><i>Airflow sensitivity to pressure variations at +20Pa and -20Pa</i>                                                                                       | Nie dotyczy / <i>Not applicable</i>                                                                                                                                |
| Szczelność między wnętrzem i obszarem na zewnątrz budynku / <i>Indoor / outdoor air tightness</i>                                                                                                                             | Nie dotyczy / <i>Not applicable</i>                                                                                                                                |

| Roczne zużycie energii RZE [kWh/rok] / <i>Annual Energy Consumption [kWh/yr]</i>      |                         |        |                                |        |                      |        |
|---------------------------------------------------------------------------------------|-------------------------|--------|--------------------------------|--------|----------------------|--------|
| Roczna oszczędność w ogrzewaniu ROO [kWh/rok] / <i>Annual heating saving [kWh/yr]</i> |                         |        |                                |        |                      |        |
| Rodzaj sterowania<br><i>Type of control</i>                                           | Klimat / <i>Climate</i> |        |                                |        |                      |        |
|                                                                                       | Chłodny / <i>Cold</i>   |        | Umiarkowany / <i>Temperate</i> |        | Ciepły / <i>Warm</i> |        |
|                                                                                       | RZE                     | ROO    | RZE                            | ROO    | RZE                  | ROO    |
| Centralne sterowanie według zapotrzebowania*<br><i>Central control by demand*</i>     | 829,4                   | 8574,9 | 292,4                          | 4383,3 | 247,4                | 1982,1 |
| Lokalne sterowanie według zapotrzebowania**<br><i>Local control by demand**</i>       | 726,7                   | 8812,9 | 189,7                          | 4505,0 | 144,7                | 2037,1 |

\* wyposażenie standardowe z panelem AWENTA CONTROL / *standard equipment with AWENTA CONTROL panel*

\*\* wyposażenie opcjonalne z dodatkowym czujnikiem CO<sub>2</sub> lub czujnikiem wilgotności / *optional equipment with additional CO<sub>2</sub> or humidity sensor*

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|                                                                      |                                                                                            |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Nazwa dostawcy / <i>Supplier's name</i>                              | AWENTA E.W.A. Chomka Spółka Jawna<br>05-300 Mińsk Mazowiecki<br>Stojadła ul. Warszawska 99 |
| Identyfikator modelu producenta / <i>Supplier's model identifier</i> | VAH505, VAH505, VAH505CF, VAH505CF                                                         |

| Jednostkowe Zużycie Energii JZE / klasa [kWh/m²/rok] / <i>Specific Energy Consumption class SEC / class [kWh/m²/yr]</i> |                         |                                |                      |
|-------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------|----------------------|
| Rodzaj sterowania<br><i>Type of control</i>                                                                             | Klimat / <i>Climate</i> |                                |                      |
|                                                                                                                         | Chłodny / <i>Cold</i>   | Umiarkowany / <i>Temperate</i> | Ciepły / <i>Warm</i> |
| Centralne sterowanie według zapotrzebowania*<br><i>/ Central control by demand*</i>                                     | -76,7 / A+              | -38,3 / A                      | -13,6 / E            |
| Lokalne sterowanie według zapotrzebowania**<br><i>/ Local control by demand**</i>                                       | -81,1 / A+              | -42,0 / A                      | -16,9 / E            |

|                                                                                                                                                                                                                               |                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Deklarowany typ / <i>Declared type</i>                                                                                                                                                                                        | SWM dwukierunkowy / <i>UVR bidirectional</i>                                                                                                                       |
| Rodzaj napędu / <i>Type of drive</i>                                                                                                                                                                                          | Bezstopniowy / <i>Stepless</i>                                                                                                                                     |
| Rodzaj układu odzysku ciepła / <i>Type of heat recovery system</i>                                                                                                                                                            | Przeponowy / <i>Membranous</i>                                                                                                                                     |
| Sprawność cieplna odzysku ciepła / <i>Thermal efficiency of heat recovery at reference air flow</i>                                                                                                                           | 88,3 %                                                                                                                                                             |
| Maksymalna wartość natężenia przepływu / <i>Maximum flow rate</i>                                                                                                                                                             | 513 [m³/h]                                                                                                                                                         |
| Pobór mocy napędu wentylatora, w tym wszystkich układów sterowania silnika, przy maksymalnym natężeniu przepływu<br><i>Electric power input of the fan drive, including any motor control equipment, at maximum flow rate</i> | 245 W                                                                                                                                                              |
| Poziom mocy akustycznej (L <sub>WA</sub> ), (przy maksymalnej wydajności)<br><i>/ Sound power level (L<sub>WA</sub>), (at maximum air flow)</i>                                                                               | 61 dB(A)                                                                                                                                                           |
| Wartość odniesienia natężenia przepływu / <i>Reference flow rate</i>                                                                                                                                                          | 0,1 m³/s                                                                                                                                                           |
| Wartość odniesienia różnicy ciśnienia / <i>Reference pressure difference</i>                                                                                                                                                  | 50 Pa                                                                                                                                                              |
| Jednostkowy pobór mocy JPM / <i>Specific Power Input SPI</i>                                                                                                                                                                  | 0,31 W/(m³/h)                                                                                                                                                      |
| Czynnik rodzaju sterowania / <i>Control factor</i>                                                                                                                                                                            | 0,85 *                                                                                                                                                             |
|                                                                                                                                                                                                                               | 0,65 **                                                                                                                                                            |
| Rodzaj sterowania / <i>Control typology</i>                                                                                                                                                                                   | Centralne sterowanie według zapotrzebowania* / <i>Central control by demand*</i><br>Lokalne sterowanie według zapotrzebowania** / <i>Local control by demand**</i> |
| Deklarowany współczynnik maksymalnych wewnętrznych przecieków powietrza MISC / <i>Maximum internal leakage rates MISC</i>                                                                                                     | 1,4 %                                                                                                                                                              |
| Deklarowany współczynnik maksymalnych zewnętrznych przecieków powietrza MISC / <i>Maximum external leakage rates MISC</i>                                                                                                     | 0,8 %                                                                                                                                                              |
| Stopień mieszania / <i>Mixing rate</i>                                                                                                                                                                                        | Nie dotyczy / <i>Not applicable</i>                                                                                                                                |
| Umieszczenie i opis mechanizmu wizualnego ostrzeżenia o konieczności wymiany filtra / <i>Position and description of visual filter warning</i>                                                                                | Ostrzeżenie na wyświetlaczu urządzenia / <i>Warning on the device display</i>                                                                                      |
| Adres strony internetowej / <i>Internet address</i>                                                                                                                                                                           | www.awentapro.pl                                                                                                                                                   |
| Podatność przepływu powietrza na zmiany ciśnienia +20Pa i -20Pa<br><i>Airflow sensitivity to pressure variations at +20Pa and -20Pa</i>                                                                                       | Nie dotyczy / <i>Not applicable</i>                                                                                                                                |
| Szczelność między wnętrzem i obszarem na zewnątrz budynku / <i>Indoor / outdoor air tightness</i>                                                                                                                             | Nie dotyczy / <i>Not applicable</i>                                                                                                                                |

| Roczne zużycie energii RZE [kWh/rok] / <i>Annual Energy Consumption [kWh/yr]</i><br>Roczna oszczędność w ogrzewaniu ROO [kWh/rok] / <i>Annual heating saving [kWh/yr]</i> |                         |        |                                |        |                      |        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------|--------------------------------|--------|----------------------|--------|
| Rodzaj sterowania<br><i>Type of control</i>                                                                                                                               | Klimat / <i>Climate</i> |        |                                |        |                      |        |
|                                                                                                                                                                           | Chłodny / <i>Cold</i>   |        | Umiarkowany / <i>Temperate</i> |        | Ciepły / <i>Warm</i> |        |
|                                                                                                                                                                           | RZE                     | ROO    | RZE                            | ROO    | RZE                  | ROO    |
| Centralne sterowanie według zapotrzebowania*<br><i>/ Central control by demand*</i>                                                                                       | 866,9                   | 8966,8 | 329,9                          | 4583,7 | 284,9                | 2072,7 |
| Lokalne sterowanie według zapotrzebowania**<br><i>/ Local control by demand**</i>                                                                                         | 748,6                   | 9112,7 | 211,6                          | 4658,2 | 166,6                | 2106,4 |

\* wyposażenie standardowe z panelem AWENTA CONTROL / *standard equipment with AWENTA CONTROL panel*

\*\* wyposażenie opcjonalne z dodatkowym czujnikiem CO<sub>2</sub> lub czujnikiem wilgotności / *optional equipment with additional CO<sub>2</sub> or humidity sensor*

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|                                                                      |                                                                                            |
|----------------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Nazwa dostawcy / <i>Supplier's name</i>                              | AWENTA E.W.A. Chomka Spółka Jawna<br>05-300 Mińsk Mazowiecki<br>Stojadła ul. Warszawska 99 |
| Identyfikator modelu producenta / <i>Supplier's model identifier</i> | VAH505E, VAH505E, VAH505CFE, VAH505CFE                                                     |

| Jednostkowe Zużycie Energii JZE / klasa [kWh/m²/rok] / <i>Specific Energy Consumption class SEC / class [kWh/m²/yr]</i> |                         |                                |                      |
|-------------------------------------------------------------------------------------------------------------------------|-------------------------|--------------------------------|----------------------|
| Rodzaj sterowania<br><i>Type of control</i>                                                                             | Klimat / <i>Climate</i> |                                |                      |
|                                                                                                                         | Chłodny / <i>Cold</i>   | Umiarkowany / <i>Temperate</i> | Ciepły / <i>Warm</i> |
| Centralne sterowanie według zapotrzebowania*<br><i>/ Central control by demand*</i>                                     | -73,4 / A+              | -37,0 / A                      | -13,6 / E            |
| Lokalne sterowanie według zapotrzebowania**<br><i>/ Local control by demand**</i>                                       | -78,4 / A+              | -40,9 / A                      | -16,7 / E            |

|                                                                                                                                                                                                                               |                                                                                                                                                                    |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Deklarowany typ / <i>Declared type</i>                                                                                                                                                                                        | SWM dwukierunkowy / <i>UVR bidirectional</i>                                                                                                                       |
| Rodzaj napędu / <i>Type of drive</i>                                                                                                                                                                                          | Bezstopniowy / <i>Stepless</i>                                                                                                                                     |
| Rodzaj układu odzysku ciepła / <i>Type of heat recovery system</i>                                                                                                                                                            | Przeponowy / <i>Membranous</i>                                                                                                                                     |
| Sprawność cieplna odzysku ciepła / <i>Thermal efficiency of heat recovery at reference air flow</i>                                                                                                                           | 80,20%                                                                                                                                                             |
| Maksymalna wartość natężenia przepływu / <i>Maximum flow rate</i>                                                                                                                                                             | 513 [m³/h]                                                                                                                                                         |
| Pobór mocy napędu wentylatora, w tym wszystkich układów sterowania silnika, przy maksymalnym natężeniu przepływu<br><i>Electric power input of the fan drive, including any motor control equipment, at maximum flow rate</i> | 245 W                                                                                                                                                              |
| Poziom mocy akustycznej (L <sub>WA</sub> ), (przy maksymalnej wydajności)<br><i>/ Sound power level (L<sub>WA</sub>), (at maximum air flow)</i>                                                                               | 61 dB(A)                                                                                                                                                           |
| Wartość odniesienia natężenia przepływu / <i>Reference flow rate</i>                                                                                                                                                          | 0,1 m³/s                                                                                                                                                           |
| Wartość odniesienia różnicy ciśnienia / <i>Reference pressure difference</i>                                                                                                                                                  | 50 Pa                                                                                                                                                              |
| Jednostkowy pobór mocy JPM / <i>Specific Power Input SPI</i>                                                                                                                                                                  | 0,27 W/(m³/h)                                                                                                                                                      |
| Czynnik rodzaju sterowania / <i>Control factor</i>                                                                                                                                                                            | 0,85 *                                                                                                                                                             |
|                                                                                                                                                                                                                               | 0,65 **                                                                                                                                                            |
| Rodzaj sterowania / <i>Control typology</i>                                                                                                                                                                                   | Centralne sterowanie według zapotrzebowania* / <i>Central control by demand*</i><br>Lokalne sterowanie według zapotrzebowania** / <i>Local control by demand**</i> |
| Deklarowany współczynnik maksymalnych wewnętrznych przecieków powietrza MISC / <i>Maximum internal leakage rates MISC</i>                                                                                                     | 1,4 %                                                                                                                                                              |
| Deklarowany współczynnik maksymalnych zewnętrznych przecieków powietrza MISC / <i>Maximum external leakage rates MISC</i>                                                                                                     | 0,8 %                                                                                                                                                              |
| Stopień mieszania / <i>Mixing rate</i>                                                                                                                                                                                        | Nie dotyczy / <i>Not applicable</i>                                                                                                                                |
| Umieszczenie i opis mechanizmu wizualnego ostrzeżenia o konieczności wymiany filtra / <i>Position and description of visual filter warning</i>                                                                                | Ostrzeżenie na wyświetlaczu urządzenia / <i>Warning on the device display</i>                                                                                      |
| Adres strony internetowej / <i>Internet address</i>                                                                                                                                                                           | www.awentapro.pl                                                                                                                                                   |
| Podatność przepływu powietrza na zmiany ciśnienia +20Pa i -20Pa<br><i>Airflow sensitivity to pressure variations at +20Pa and -20Pa</i>                                                                                       | Nie dotyczy / <i>Not applicable</i>                                                                                                                                |
| Szczelność między wnętrzem i obszarem na zewnątrz budynku / <i>Indoor / outdoor air tightness</i>                                                                                                                             | Nie dotyczy / <i>Not applicable</i>                                                                                                                                |

| Roczne zużycie energii RZE [kWh/rok] / <i>Annual Energy Consumption [kWh/yr]</i><br>Roczna oszczędność w ogrzewaniu ROO [kWh/rok] / <i>Annual heating saving [kWh/yr]</i> |                         |        |                                |        |                      |        |
|---------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------|--------|--------------------------------|--------|----------------------|--------|
| Rodzaj sterowania<br><i>Type of control</i>                                                                                                                               | Klimat / <i>Climate</i> |        |                                |        |                      |        |
|                                                                                                                                                                           | Chłodny / <i>Cold</i>   |        | Umiarkowany / <i>Temperate</i> |        | Ciepły / <i>Warm</i> |        |
|                                                                                                                                                                           | RZE                     | ROO    | RZE                            | ROO    | RZE                  | ROO    |
| Centralne sterowanie według zapotrzebowania*<br><i>/ Central control by demand*</i>                                                                                       | 827,8                   | 8537,8 | 290,8                          | 4364,3 | 245,8                | 1973,5 |
| Lokalne sterowanie według zapotrzebowania**<br><i>/ Local control by demand**</i>                                                                                         | 725,7                   | 8784,6 | 188,7                          | 4490,5 | 143,7                | 2030,5 |

\* wyposażenie standardowe z panelem AWENTA CONTROL / *standard equipment with AWENTA CONTROL panel*

\*\* wyposażenie opcjonalne z dodatkowym czujnikiem CO<sub>2</sub> lub czujnikiem wilgotności / *optional equipment with additional CO<sub>2</sub> or humidity sensor*

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|                                                               |                                                                                            |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Nazwa dostawcy / Supplier's name                              | AWENTA E.W.A. Chomka Spółka Jawna<br>05-300 Mińsk Mazowiecki<br>Stojadła ul. Warszawska 99 |
| Identyfikator modelu producenta / Supplier's model identifier | VAH605, VAH605, VAH605CF, VAH605CF                                                         |

| Jednostkowe Zużycie Energii JZE / klasa [kWh/m²/rok] / Specific Energy Consumption class SEC / class [kWh/m²/yr] |                  |                         |               |
|------------------------------------------------------------------------------------------------------------------|------------------|-------------------------|---------------|
| Rodzaj sterowania<br>Type of control                                                                             | Klimat / Climate |                         |               |
|                                                                                                                  | Chłodny / Cold   | Umiarkowany / Temperate | Ciepły / Warm |
| Centralne sterowanie według zapotrzebowania*<br>/ Central control by demand*                                     | -73,8 / A+       | -37,0 / A               | -13,3 / E     |
| Lokalne sterowanie według zapotrzebowania**<br>/ Local control by demand**                                       | -78,8 / A+       | -40,9 / A               | -16,6 / E     |

|                                                                                                                                                                                                                        |                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Deklarowany typ / Declared type                                                                                                                                                                                        | SWM dwukierunkowy / UVR bidirectional                                                                                                                  |
| Rodzaj napędu / Type of drive                                                                                                                                                                                          | Bezstopniowy / Stepless                                                                                                                                |
| Rodzaj układu odzysku ciepła / Type of heat recovery system                                                                                                                                                            | Przeponowy / Membranous                                                                                                                                |
| Sprawność cieplna odzysku ciepła / Thermal efficiency of heat recovery at reference air flow                                                                                                                           | 81,9 %                                                                                                                                                 |
| Maksymalna wartość natężenia przepływu / Maximum flow rate                                                                                                                                                             | 615 [m³/h]                                                                                                                                             |
| Pobór mocy napędu wentylatora, w tym wszystkich układów sterowania silnika, przy maksymalnym natężeniu przepływu<br>Electric power input of the fan drive, including any motor control equipment, at maximum flow rate | 340 W                                                                                                                                                  |
| Poziom mocy akustycznej (L <sub>WA</sub> ), (przy maksymalnej wydajności)<br>/ Sound power level (L <sub>WA</sub> ), (at maximum air flow)                                                                             | 63 dB(A)                                                                                                                                               |
| Wartość odniesienia natężenia przepływu / Reference flow rate                                                                                                                                                          | 0,12 m³/s                                                                                                                                              |
| Wartość odniesienia różnicy ciśnienia / Reference pressure difference                                                                                                                                                  | 50 Pa                                                                                                                                                  |
| Jednostkowy pobór mocy JPM / Specific Power Input SPI                                                                                                                                                                  | 0,29 W/(m³/h)                                                                                                                                          |
| Czynnik rodzaju sterowania / Control factor                                                                                                                                                                            | 0,85 *                                                                                                                                                 |
|                                                                                                                                                                                                                        | 0,65 **                                                                                                                                                |
| Rodzaj sterowania / Control typology                                                                                                                                                                                   | Centralne sterowanie według zapotrzebowania* / Central control by demand *<br>Lokalne sterowanie według zapotrzebowania** / Local control by demand ** |
| Deklarowany współczynnik maksymalnych wewnętrznych przecieków powietrza MISC / Maximum internal leakage rates MISC                                                                                                     | 1,3 %                                                                                                                                                  |
| Deklarowany współczynnik maksymalnych zewnętrznych przecieków powietrza MISC / Maximum external leakage rates MISC                                                                                                     | 0,7 %                                                                                                                                                  |
| Stopień mieszania / Mixing rate                                                                                                                                                                                        | Nie dotyczy / Not applicable                                                                                                                           |
| Umieszczenie i opis mechanizmu wizualnego ostrzeżenia o konieczności wymiany filtra / Position and description of visual filter warning                                                                                | Ostrzeżenie na wyświetlaczu urządzenia / Warning on the device display                                                                                 |
| Adres strony internetowej / Internet address                                                                                                                                                                           | www.awentapro.pl                                                                                                                                       |
| Podatność przepływu powietrza na zmiany ciśnienia +20Pa i -20Pa<br>Airflow sensitivity to pressure variations at +20Pa and -20Pa                                                                                       | Nie dotyczy / Not applicable                                                                                                                           |
| Szczelność między wewnątrz i obszarem na zewnątrz budynku / Indoor / outdoor air tightness                                                                                                                             | Nie dotyczy / Not applicable                                                                                                                           |

| Roczne zużycie energii RZE [kWh/rok] / Annual Energy Consumption [kWh/yr]<br>Roczna oszczędność w ogrzewaniu ROO [kWh/rok] / Annual heating saving [kWh/yr] |                  |        |                         |        |               |        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------|-------------------------|--------|---------------|--------|
| Rodzaj sterowania<br>Type of control                                                                                                                        | Klimat / Climate |        |                         |        |               |        |
|                                                                                                                                                             | Chłodny / Cold   |        | Umiarkowany / Temperate |        | Ciepły / Warm |        |
|                                                                                                                                                             | RZE              | ROO    | RZE                     | ROO    | RZE           | ROO    |
| Centralne sterowanie według zapotrzebowania*<br>/ Central control by demand *                                                                               | 848,7            | 8627,9 | 311,7                   | 4410,4 | 266,7         | 1994,3 |
| Lokalne sterowanie według zapotrzebowania**<br>/ Local control by demand **                                                                                 | 738,0            | 8853,4 | 201,0                   | 4525,7 | 156,0         | 2046,5 |

\* wyposażenie standardowe z panelem AWENTA CONTROL / standard equipment with AWENTA CONTROL panel

\*\* wyposażenie opcjonalne z dodatkowym czujnikiem CO<sub>2</sub> lub czujnikiem wilgotności / optional equipment with additional CO<sub>2</sub> or humidity sensor

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|                                                               |                                                                                            |
|---------------------------------------------------------------|--------------------------------------------------------------------------------------------|
| Nazwa dostawcy / Supplier's name                              | AWENTA E.W.A. Chomka Spółka Jawna<br>05-300 Mińsk Mazowiecki<br>Stojadła ul. Warszawska 99 |
| Identyfikator modelu producenta / Supplier's model identifier | VAH605E, VAH605E, VAH605CFE, VAH605CFE                                                     |

| Jednostkowe Zużycie Energii JZE / klasa [kWh/m <sup>2</sup> /rok] / Specific Energy Consumption class SEC / class [kWh/m <sup>2</sup> /yr] |                  |                         |               |
|--------------------------------------------------------------------------------------------------------------------------------------------|------------------|-------------------------|---------------|
| Rodzaj sterowania<br>Type of control                                                                                                       | Klimat / Climate |                         |               |
|                                                                                                                                            | Chłodny / Cold   | Umiarkowany / Temperate | Ciepły / Warm |
| Centralne sterowanie według zapotrzebowania*<br>/ Central control by demand*                                                               | -70,2 / A+       | -35,0 / A               | -12,2 / E     |
| Lokalne sterowanie według zapotrzebowania**<br>/ Local control by demand**                                                                 | -76,2 / A+       | -39,5 / A               | -15,8 / E     |

|                                                                                                                                                                                                                        |                                                                                                                                                        |
|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------|
| Deklarowany typ / Declared type                                                                                                                                                                                        | SWM dwukierunkowy / UVR bidirectional                                                                                                                  |
| Rodzaj napędu / Type of drive                                                                                                                                                                                          | Bezstopniowy / Stepless                                                                                                                                |
| Rodzaj układu odzysku ciepła / Type of heat recovery system                                                                                                                                                            | Przeponowy / Membranous                                                                                                                                |
| Sprawność cieplna odzysku ciepła / Thermal efficiency of heat recovery at reference air flow                                                                                                                           | 75,8 %                                                                                                                                                 |
| Maksymalna wartość natężenia przepływu / Maximum flow rate                                                                                                                                                             | 590 [m <sup>3</sup> /h]                                                                                                                                |
| Pobór mocy napędu wentylatora, w tym wszystkich układów sterowania silnika, przy maksymalnym natężeniu przepływu<br>Electric power input of the fan drive, including any motor control equipment, at maximum flow rate | 340 W                                                                                                                                                  |
| Poziom mocy akustycznej (L <sub>WA</sub> ), (przy maksymalnej wydajności)<br>/ Sound power level (L <sub>WA</sub> ), (at maximum air flow)                                                                             | 63 dB(A)                                                                                                                                               |
| Wartość odniesienia natężenia przepływu / Reference flow rate                                                                                                                                                          | 0,115 m <sup>3</sup> /s                                                                                                                                |
| Wartość odniesienia różnicy ciśnienia / Reference pressure difference                                                                                                                                                  | 50 Pa                                                                                                                                                  |
| Jednostkowy pobór mocy JPM / Specific Power Input SPI                                                                                                                                                                  | 0,31 W/(m <sup>3</sup> /h)                                                                                                                             |
| Czynnik rodzaju sterowania / Control factor                                                                                                                                                                            | 0,85 *                                                                                                                                                 |
|                                                                                                                                                                                                                        | 0,65 **                                                                                                                                                |
| Rodzaj sterowania / Control typology                                                                                                                                                                                   | Centralne sterowanie według zapotrzebowania* / Central control by demand *<br>Lokalne sterowanie według zapotrzebowania** / Local control by demand ** |
| Deklarowany współczynnik maksymalnych wewnętrznych przecieków powietrza MISC / Maximum internal leakage rates MISC                                                                                                     | 1,2 %                                                                                                                                                  |
| Deklarowany współczynnik maksymalnych zewnętrznych przecieków powietrza MISC / Maximum external leakage rates MISC                                                                                                     | 0,7 %                                                                                                                                                  |
| Stopień mieszania / Mixing rate                                                                                                                                                                                        | Nie dotyczy / Not applicable                                                                                                                           |
| Umieszczenie i opis mechanizmu wizualnego ostrzeżenia o konieczności wymiany filtra / Position and description of visual filter warning                                                                                | Ostrzeżenie na wyświetlaczu urządzenia / Warning on the device display                                                                                 |
| Adres strony internetowej / Internet address                                                                                                                                                                           | www.awentapro.pl                                                                                                                                       |
| Podatność przepływu powietrza na zmiany ciśnienia +20Pa i -20Pa<br>Airflow sensitivity to pressure variations at +20Pa and -20Pa                                                                                       | Nie dotyczy / Not applicable                                                                                                                           |
| Szczelność między wnętrzem i obszarem na zewnątrz budynku / Indoor / outdoor air tightness                                                                                                                             | Nie dotyczy / Not applicable                                                                                                                           |

| Roczne zużycie energii RZE [kWh/rok] / Annual Energy Consumption [kWh/yr]<br>Roczna oszczędność w ogrzewaniu ROO [kWh/rok] / Annual heating saving [kWh/yr] |                  |        |                         |        |               |        |
|-------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------|-------------------------|--------|---------------|--------|
| Rodzaj sterowania<br>Type of control                                                                                                                        | Klimat / Climate |        |                         |        |               |        |
|                                                                                                                                                             | Chłodny / Cold   |        | Umiarkowany / Temperate |        | Ciepły / Warm |        |
|                                                                                                                                                             | RZE              | ROO    | RZE                     | ROO    | RZE           | ROO    |
| Centralne sterowanie według zapotrzebowania*<br>/ Central control by demand *                                                                               | 861,4            | 8304,8 | 324,4                   | 4245,2 | 279,4         | 1919,6 |
| Lokalne sterowanie według zapotrzebowania**<br>/ Local control by demand **                                                                                 | 745,4            | 8606,4 | 208,4                   | 4399,4 | 163,4         | 1989,3 |

\* wyposażenie standardowe z panelem AWENTA CONTROL / standard equipment with AWENTA CONTROL panel

\*\* wyposażenie opcjonalne z dodatkowym czujnikiem CO<sub>2</sub> lub czujnikiem wilgotności / optional equipment with additional CO<sub>2</sub> or humidity sensor





*Producent:*

***AWENTA Spółka Jawna***

*05-300 Mińsk Mazowiecki, Stojadła, ul. Warszawska 99, Poland*

*tel: +48 25 758 52 52, +48 25 758 93 92 / fax: +48 25 758 14 62*

*e-mail: [info@awentapro.pl](mailto:info@awentapro.pl)*

***[www.awentapro.pl](http://www.awentapro.pl)***