

# Instructions for installation and operation of the decentralized ventilation units with heat recovery VENTOXX HARMONY



# Table of Contents

<a href="#">1. Introduction</a>	3
<a href="#">1.1. Responsibility</a>	3
<a href="#">1.2. Safety instructions</a>	4
<a href="#">2. Ventilation device</a>	4
<a href="#">2.1. Purpose of the device</a>	4
<a href="#">2.2. Complete set</a>	5
<a href="#">2.3. Technical specifications of the Ventoxx Harmony HRV</a>	6
<a href="#">3. Preparing for installation</a>	7
<a href="#">3.1. Device placement</a>	7
<a href="#">3.2. General provisions for selecting the HRV installation location</a>	7
<a href="#">3.3. Tools required for installation</a>	7
<a href="#">3.4. Safety during operation</a>	8
<a href="#">4. Installation of the Ventoxx Harmony HRV</a>	8
<a href="#">4.1. Making a hole in the wall</a>	8
<a href="#">4.2. Step-by-step installation</a>	8
<a href="#">5. The electrical connection of the device</a>	13
<a href="#">5.1. General information</a>	13
<a href="#">5.2. Connection of master-slave pairs and control of the fresh air heat recovery unit by remote control</a>	14
<a href="#">5.3. Connection of the decentralized heat recovery units to the Ventoxx Twist control</a>	15
<a href="#">5.3.1. Wiring schematics for Ventoxx Twist fans and controls</a>	16
<a href="#">5.3.2. Installation of the Ventoxx Twist control in wall</a>	17
<a href="#">6. Completing the installation and commissioning</a>	18
<a href="#">6.1. Installation of the inner cover</a>	18
<a href="#">7. Operation of the decentralized heat recovery unit</a>	19
<a href="#">7.1. Description of Ventoxx Harmony heat recovery unit operation modes</a>	19
<a href="#">7.2. Automatic ventilation in the hot season</a>	21
<a href="#">7.3. Description of the indication symbols on the inner cover of the decentralized heat recovery unit</a>	21
<a href="#">7.4. Control of the heat recovery unit with the remote control</a>	22
<a href="#">7.5. Control of the heat recovery unit with the Ventoxx Twist control</a>	23
<a href="#">8. Device maintenance</a>	24
<a href="#">8.1. Cleaning and replacing the air filter</a>	25
<a href="#">8.2. Cleaning the heat exchanger and other components</a>	25
<a href="#">8.3. Troubleshooting errors and malfunctions</a>	27
<a href="#">9. Quality and warranty</a>	27

# 1. Introduction

Congratulations on your purchase!

You have purchased a high quality decentralized heat recovery unit from the Ventoxx TM. If you just took the ventilation device out of the package, you are holding our pride and the result of many years of work in your hands. Thousands of hours of engineers' work for continuous improvement, new developments and product prototyping; hundreds of measurements and tests in laboratories; millions of creative sessions to find the best user experience - all this is put into the product by the Ventoxx TM!

Our goal is to continue to provide you with the best product and customer service and therefore, we would appreciate your feedback. For any questions about our products and your user experience, you can contact us as follows:

Toll-free hotline:	0800 214 057
Email for suggestions and recommendations:	info@ventoxx.ua
Chat and contact form on the site:	<a href="https://ventoxx.ua">https://ventoxx.ua</a>
Leave a review on the site:	<a href="https://ventoxx.ua/feedback/">https://ventoxx.ua/feedback/</a>

## 1.1. Responsibility

These instructions are for the installation and operation of the Ventoxx Harmony ventilation device. The instructions are based on the current information as of July 01st, 2021. The contents of the instructions can be updated and supplemented. The contents of the instructions are subject to updates and additions. The current version can always be found and downloaded for free in PDF format on the official website <https://ventoxx.ua>.

The installation of the decentralized heat recovery units in the wall and its connection to the power supply must only be carried out by qualified specialists knowledgeable in safety engineering and qualified to work with the power supply connections. Be sure to read all of these instructions before installing and connecting your device.

After installing and switching on a fresh air heat recovery unit, testing its operation and acquainting the user with the basics of the device operation, these instructions must be given to the owner of the ventilation device or to their authorized representative, who is responsible for the correct use of the device in the room.

Improper use of the device may result in damage to the device and/or injury to people. The manufacturer is not responsible for events that occurred due to

improper installation or incorrect use of the device, in particular in the following cases:

- Violation of safety rules and installation instructions.
- Lack of proper maintenance of the equipment, specified in these instructions.
- Installation of materials, spare parts, or individual elements in the device that are not authorized products by the Ventoxx TM.

## 1.2 Safety instructions

The instructions use the following symbols:



Please, read the instructions carefully. In it, you will find important information about correct installation and connection, warning about possible dangerous situations, and rules of handling the Ventoxx Harmony device.



Please note that there is a great risk of injury or property damage and/or increased caution is required during operation.



Please note that there is a possibility of installation errors that could result in damage and/or cause the device to malfunction.



Please note that there is a risk of electric shock. Connection to the mains must only be carried out by qualified personnel.

## 2. Ventilation device

### 2.1. Purpose of the device

Ventoxx Harmony ventilation device is a decentralized ventilation unit with heat recovery (hereinafter - recuperator). Decentralized heat recovery units are installed to provide autonomous air exchange in rooms and at the same time retain heat due to the effect of recovery.

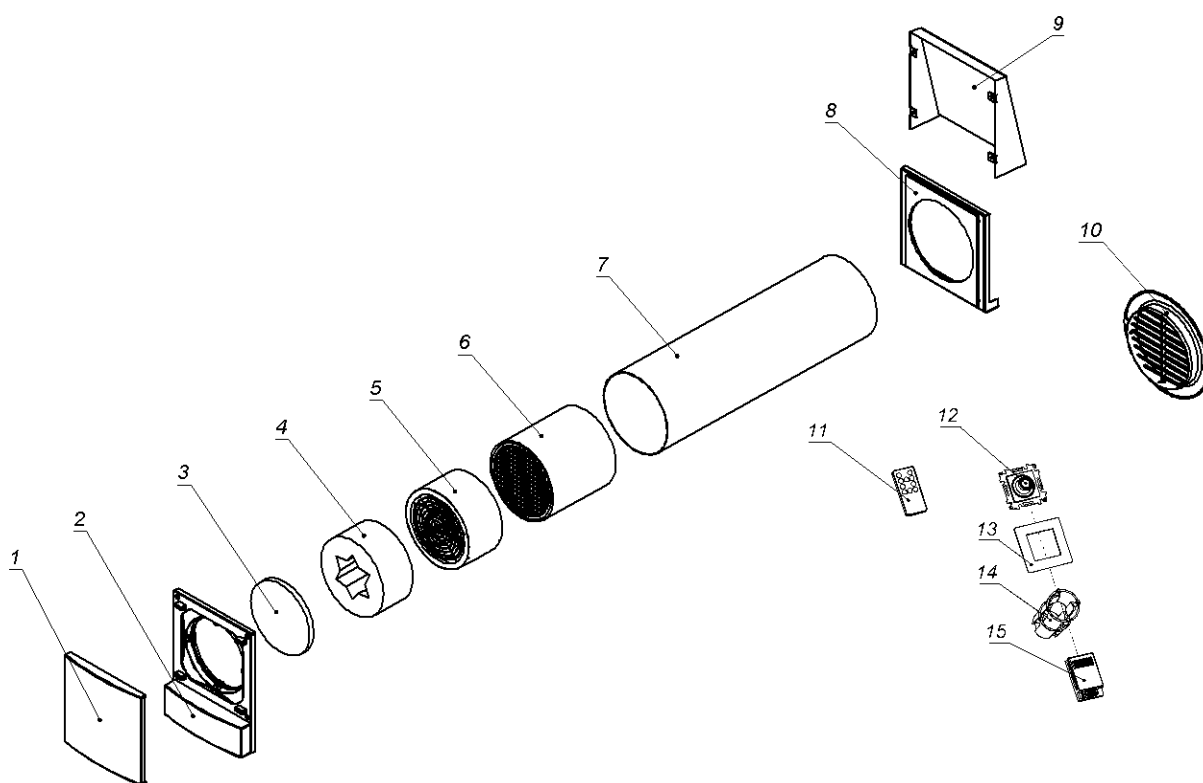
The decentralized heat recovery unit can be installed in any living space and in any public buildings where people will be present and where no special temperature regimes or climatic conditions are required.

The device is equipped with a ceramic heat exchanger, which accumulates the heat of used exhaust air and then returns the same heat to the fresh air coming from the outside.

The fresh air heat recovery unit is installed in the wall thickness. The air duct inside which the device is located can be 0.5 or 0.75 m in length as standard and is undercut according to the wall thickness before installation.

## 2.2. Complete set

The Ventoxx Harmony consists of the following components:



- 1 - movable part of the inner cover
- 2 - a mounting plate with indication of current operating mode
- 3 - air filter of G2 class
- 4 - Ventoxx Star noise attenuation element \*
- 5 - cartridge with a reversible fan
- 6 - ceramic heat exchanger in thermal insulation
- 7 - air duct
- 8 - a mounting plate of the outer metal cover \*\*
- 9 - metal hood of the outer metal cover \*\*
- 10 - back output diffuser grid \*\*
- 11 - remote control (as supplied)

- 12 - Ventoxx Twist control relay (as supplied)
- 13 - Ventoxx Twist control mounting plate (as supplied)
- 14 - box for installation of Ventoxx Twist control in the wall (as supplied)
- 15 - Ventoxx Twist control power supply unit (as supplied)

Also included:

- dowel 6 \* 40 mm - 4 pcs and self-tapping screw 4 \* 50 mm - 4 pcs - for fixing the mounting plate with the indication of the current operating mode
- dowel 8 \* 50 mm - 4 pcs and self-tapping screw 5 \* 50 mm - for fixing the mounting plate of the external metal cover \*\*
- dowel 6\*40 mm - 2 pcs and self-tapping screw 3\*50 mm - 2 pcs, for mounting the back output plastic diffuser grid \*\*

\* optional component, not available in the standard complete set

\*\* depending on the selected modification, there can be a complete set with the back output plastic diffuser grid instead of a metal cover.

After unpacking the purchased product, make sure that the complete set of the fresh air heat recovery unit in the modification you ordered is available (see Figure above).

In addition, inside each box should be present:

- ✓ Instructions for installation and operation of the ventilation system with heat recovery with warranty card
- ✓ technical certificate.



Be careful when unpacking and installing the decentralized heat recovery unit, do not hit or drop the unit, which could damage the ceramic heat exchanger.

### 2.3. Technical specifications of the Ventoxx Harmony HRV

Number of operating modes	11
Number of speeds	3

HRV capacity, m/h	17 to 50
Recovery efficiency, %	74 to 86
Noise level at a distance of 3 m, dB	12 to 22
Voltage, V	100-230
Power Consumption, W per hour	1.6 to 2.6
Type of heat exchanger	the ceramic heat exchanger (Germany)
Diameter of the hole in the wall, mm	160 to 180
Temperature mode of operation, °C	-20... +50
Dimensions:	
Air duct, mm	∅ 152
The inner cover, mm	248 × 186
The metal hood of the outer metal cover, mm	210 × 204
Back output diffuser grid, mm	∅ 200
Placement method	horizontal placement in the outer wall with an angle of 0.6 to 2% towards the street
Filter	G2, washable
Energy efficiency class	A
Maintenance	Washing of filters and heat exchanger is every 3 months. Changing filters is every 2 years.

### 3. Preparing for installation

#### 3.1. Device placement



Ventoxx Harmony HRV is stationary general exchange ventilation. Therefore, its overall performance and efficiency depend on the correct placement of the devices in the room, as well as the correct installation and use according to the provisions of these instructions.

When purchasing the Ventoxx ventilation system, ask your dealer for a schematic diagram of the recommended placement of the devices.

*The example of a schematic diagram for the recommended placement of HRV in a living space*

#### 3.2. General provisions for selecting the HRV installation location

- Mounting height: for optimal distribution of air flows the fresh air heat recovery units should be installed in the upper wall segment at least 150 mm from the ceiling.
- Distance between units: the fresh air heat recovery units must be placed at a distance of not less than 2 m from each other.
- Distance from the door: the fresh air heat recovery unit should be placed as far from the door as possible to achieve the maximum effect of the ventilation operation.
- Free access to the device: for easier maintenance of the fresh air heat recovery unit, make sure that the place chosen for installation allows removing its inner cover without hindrance.
- Installation above the beds: we do not recommend installing the HRV directly above the bed because the tenants may be affected by a slight movement of the airflow.

#### 3.3. Tools required for installation

During the installation of the device you will need:

- Builder's level
- Multipurpose knife
- In case of drilling holes - perforator, crown with diamond coating



- Construction foam
- Flat 3 mm screwdriver
- Wire stripping tool (for wire installation).

For installation, you will also need the following fasteners: anchors, dowels, screws which are selected according to your facade system, type of insulation, construction and wall material.

### **3.4. Safety during operation**

Protective equipment must be worn when installing the decentralized heat recovery unit:

- Safety goggles
- Work gloves
- Hearing protection
- Head protection
- Special work shoes.

## **4. Installation of the Ventoxx Harmony HRV**

### **4.1. Making a hole in the wall**

To install the device, you must first make a round hole in the wall with the required diameter. In rooms with completed renovations, we recommend always making the holes with diamond drilling technology. Make sure that the core bit of the tool is designed for drilling holes with a diameter of 160 to 180 mm. The hole in the wall is made at an angle of 0.6 to 2% towards the street.

#### **Before making a hole in the wall, make sure that:**



- No one is in danger of being injured when drilling or falling parts of the wall from the hole being created.
- Objects and structures will not be damaged by falling pieces of the wall during drilling.
- There are no wires or pipes at the drilling site.
- Making a hole will not affect the supporting function of the wall.
- Making the hole will not affect the physics of the building, in particular, it will not provoke the accumulation of condensation or other moisture in the wall structure.

## 4.2. Step-by-step installation

### Step 1:

After selecting an installation location and making a mounting hole in the wall, run the 220 V power supply wire to it.

### Step 2:

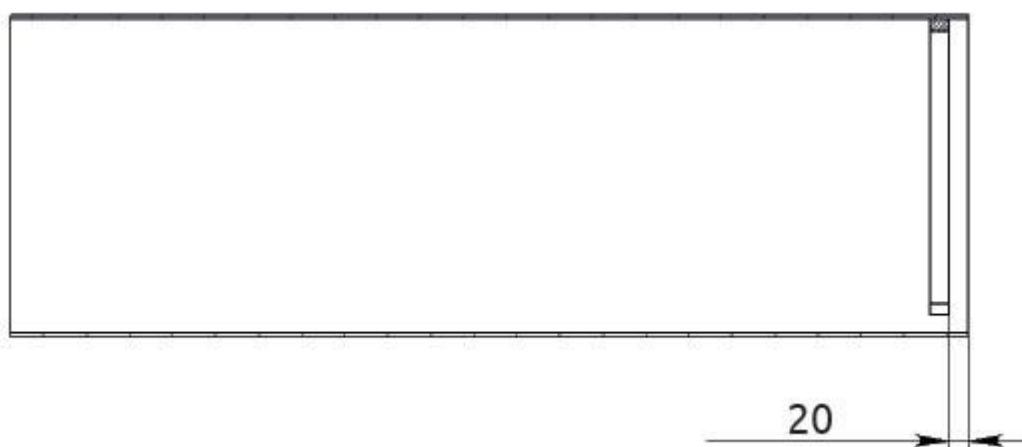
Measure the wall thickness, if you bought the set with the external metal cover, positions 8 and 9 in the picture of the complete set from the box, add another 15 mm to this value. If you have purchased a set with a back output diffuser grid, item 10 in the figure of the complete set from the box, you do not need to add anything to the measured thickness of the wall. Measure the resulting length on the air duct and mark it with a pencil, carefully cut off the excess and remove any irregularities.



In the standard complete set, the air duct has a length of 500 mm and can be built into a wall with a maximum thickness of 485 mm. If the wall thickness in your room is greater, it is possible to install the device on the condition that the required air duct length (0.5 m, 0.75 m, 1 m, 1.5 m) is ordered/exchanged.

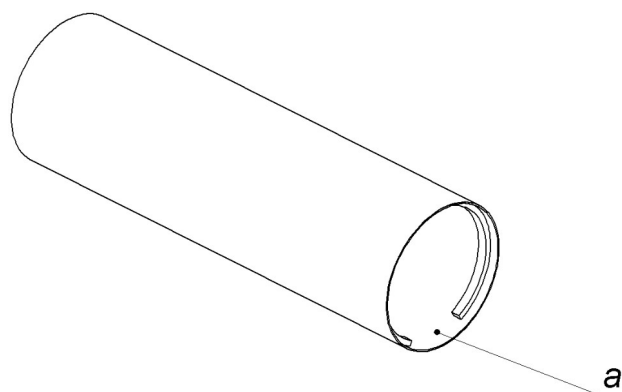
### Step 3:

After the air duct is shortened to the required length, glue the rubber limiter that comes with the device at a distance of 10 to 15 mm from the cut of the pipe. For a tighter fit of the limiter, we recommend warming up the adhesive layer a bit with an industrial hairdryer.



The limiter should not cover the entire diameter of the air duct, it should be glued to leave one segment uncovered.

The air duct must be placed in the wall so that the uncovered gap ("a" in the diagram) is at the bottom.

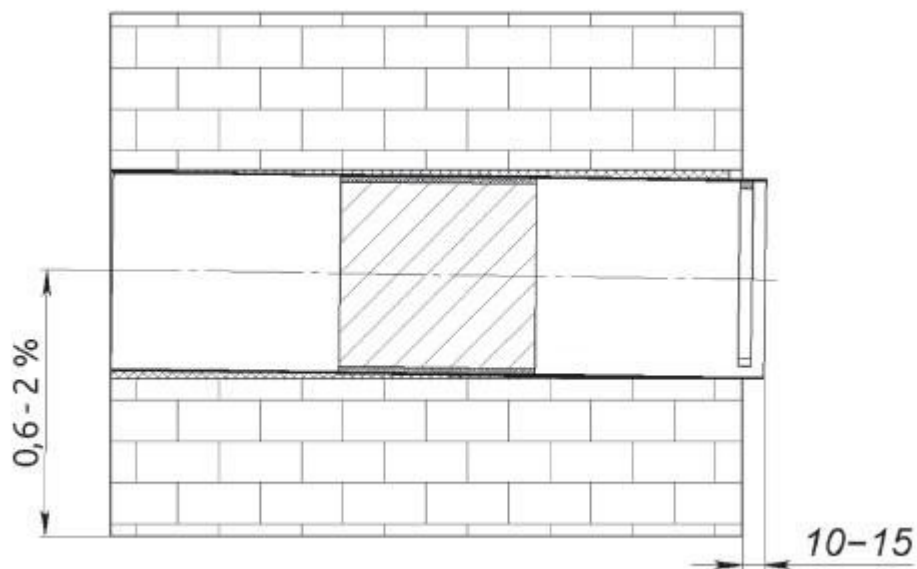


**Step 4:**

Insert the ceramic heat exchanger into the air duct and slide it in about half the length of the pipe. Align the air duct with the center of the installation opening with a slope of 0.6 to 2% toward the street.

At the same time, on the street side the air duct should:

- Protrude from the wall by 10 to 15 mm if you bought a complete set with an external metal cover.
- Be at the level of the wall, if equipped with a back output diffuser grid.



**Step 5:**

After installing the air duct in the wall in the correct position, secure it with construction foam.



Be sure to wear work gloves and goggles when working with the foam to avoid getting foam in your eyes or on your skin. Make sure that the product you are going to use is safe.



**Attention!** Make sure that the air duct is NOT deformed during installation and until the foam is fully hardened. Do not remove the heat exchanger until the foam is fully hardened!

**Step 6:**

After the construction foam has hardened completely, check the ease of access to the heat exchanger. The heat exchanger is easy to move along the air duct, up to the limiter and until it is completely removed from the pipe. If it is difficult or impossible to move the exchanger from the air duct, it means that the pipe was deformed during the hardening of the construction foam. To eliminate the deformation, you need to partially or completely remove the construction foam and repeat steps 4 and 5.

**Step 7:**

Insert the ceramic heat exchanger into the air duct and slide it to the limiter. Install the fan cartridge (grid toward the room) closely against the ceramic heat exchanger. Run the wires from the fan inside the room.

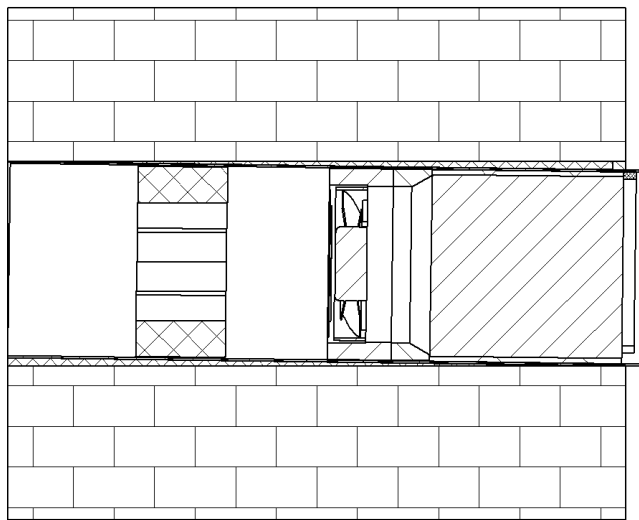
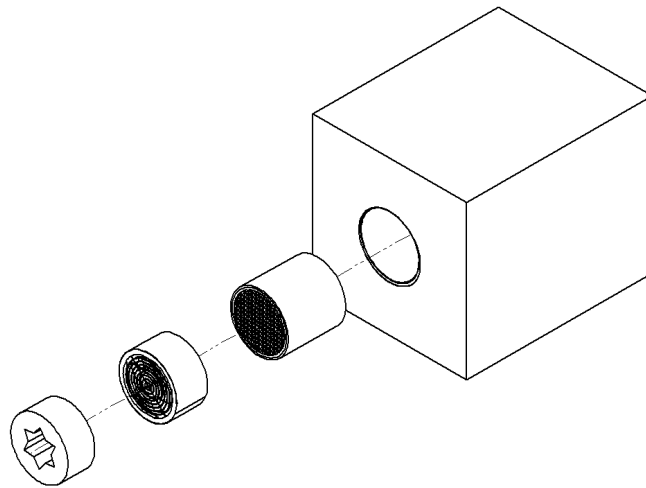
**Step 7a (optional):**

If your model is equipped with a Ventox Star sound attenuator, install it directly behind the fan in the free space between the fan cartridge and the edge of the air duct.



**Attention!** Installation of sound attenuators is only possible with a minimum air duct length of 400 mm.

The wires from the fan must be inserted through the hole in the sound attenuator and run towards the room.



**Step 8:**

To prevent precipitation from entering the wall material or insulation, the space between the hole in the wall and the air duct must be sealed on the outside of the building by applying a sealing mixture (plaster, mortar, or sealant).

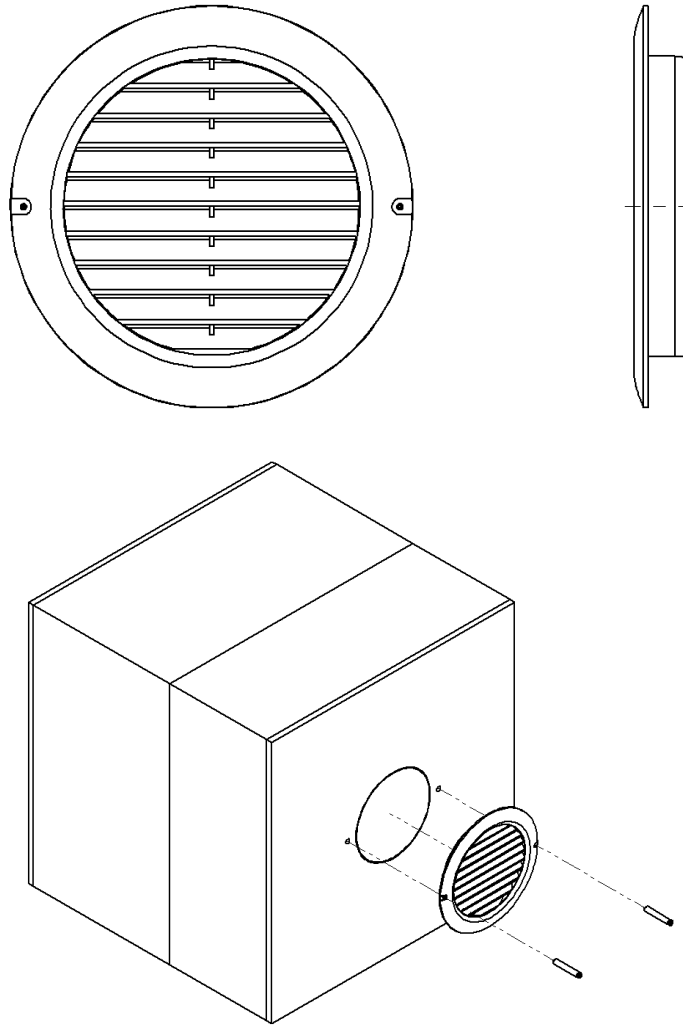
**Step 9a:**

**Attach an external grid** if your set includes a back output diffuser grid to close the decentralized heat recovery unit from the street side.

The grid mounting system is selected according to your facade system, type of insulation, construction, wall material and may not correspond to the mountings included in your delivery set.

Attach the grid to the mounting location and mark with a pencil the points for drilling the holes. Drill holes for your mounting system, clean them and the air

duct of debris. Install the fasteners in the holes, attach the cover and bolt it to the wall with the fastening system.



If the wall surface is rough or uneven, we recommend applying a sealant to the inside surface of the plastic grid flange to eliminate the gap between the cover and the wall.

**Step 9b.**

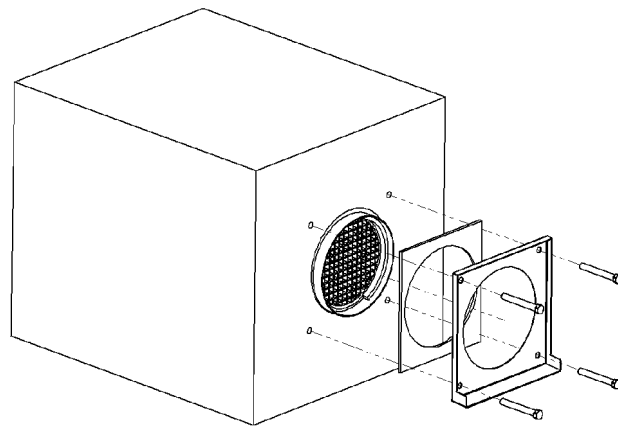
**Attach the outer metal cover** if your delivery set includes a weatherproof cover for the decentralized heat recovery unit.

The fastening system of the outer metal cover (anchors, dowels and screws) is selected according to your facade system, type of insulation, construction, wall material and may not correspond to the dimensions included in the delivery set.

Mark the points of the mounting holes on the wall. The diameter of the holes in the mounting plate must be 9 mm to install the anchors.

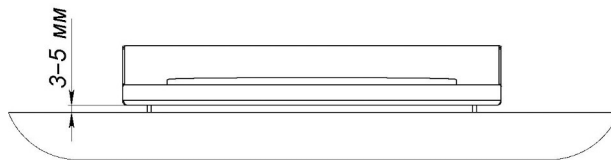
On the part of the air duct that protrudes from the wall, put the mounting plate with sealant and make marks with a pencil for drilling holes. Remove the mounting plate. Drill the holes and remove debris from the holes and air duct.

Please note, in case the wall reveals unevenness, it may cause precipitation entering and deterioration of the structure. In this case, it is necessary to level the unevenness of the wall with sealant. However, do not forget to pay attention to the necessary distance between the mounting plate and the wall, which is 3 to 5 mm. Press the mounting plate against the wall and screw the anchors in.



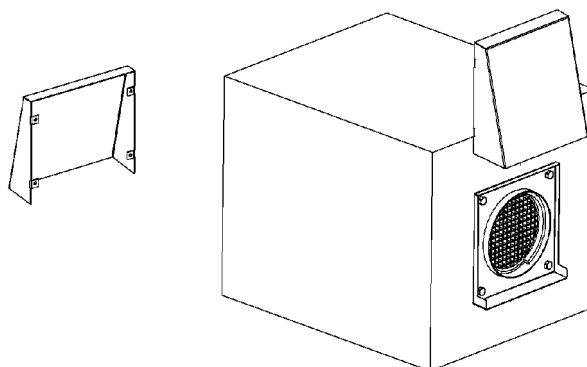
Top view

*Вид сверху*



### Step 10:

Attach the hood of the outer cover to the mounting plate by inserting the lugs of the metal cover into the space between the wall and the mounting plate.



## 5. The electrical connection of the device

### 5.1. General information

Ventoxx Harmony HRV has various control options through the remote control or wired in-wall control Ventoxx Twist.

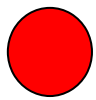
In addition, depending on the number and placement of the devices you install in the room, you should connect decentralized heat recovery units that work in pairs to each other. The following instructions describe the different electrical connection options depending on the above-mentioned parameters of the decentralized heat recovery units you purchased.

### 5.2. Connection of master-slave pairs and control of the fresh air heat recovery unit by remote control

The devices of the standard complete set are divided into two types:

- 1) Master
- 2) Slave

You can distinguish between master and slave devices with the markings on the packing:



- (Red) master device

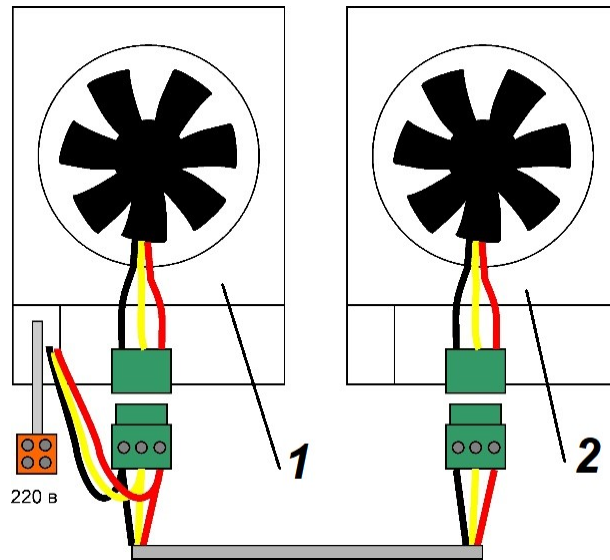


- (Blue) slave device

**The master device** is the only device that responds to remote control or Ventoxx Twist control signals. On this device, the user can switch on the selected operating mode as well as switch the connected slave device to the desired operating mode. The current operating mode is displayed as an indication on the cover of the master device or the Ventoxx Twist control. The master device can also operate autonomously, without connection to a slave device.

**The slave device** does not have its own power supply, and its fan is connected directly to the three-wire bus of the master device, as shown in the figure.





Device pairing schematic diagram:

1 — Active master device. 2 — Slave device.

A triple-core cable is used to control the slave devices. Depending on the length of the mainline, choose wires with the following cross-sectional area:

- up to 10 m - 0.75 mm<sup>2</sup>
- up to 20 m - 1 mm<sup>2</sup>
- up to 30 m - 1.5 mm<sup>2</sup>.

When using a three-core mainline, the connection to the green connector must be made through a transition block with a wire with a cross-section of no more than 0.5 mm<sup>2</sup>.

Once all the fresh air heat recovery units are connected and the inner covers are installed, the master device can be switched on with remote control.

If several pairs of fresh air heat recovery units are installed in an apartment or house, any master device can be controlled with a single remote control.

For more information on controlling the fresh air heat recovery unit operating modes, see section 7.3 of these instructions.

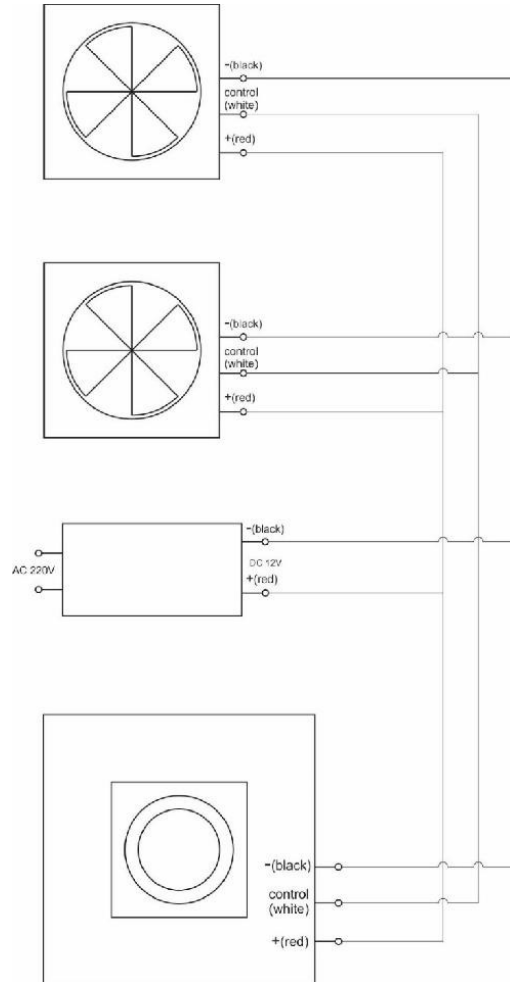
### 5.3. Connection of the decentralized heat recovery units to the Ventox Twist control

As a standard set, the Ventox Twist control has a power supply of 25 W and can be connected to 4 ventilation devices. To connect more devices, it is necessary to provide more mains power (5 W for each additional device).



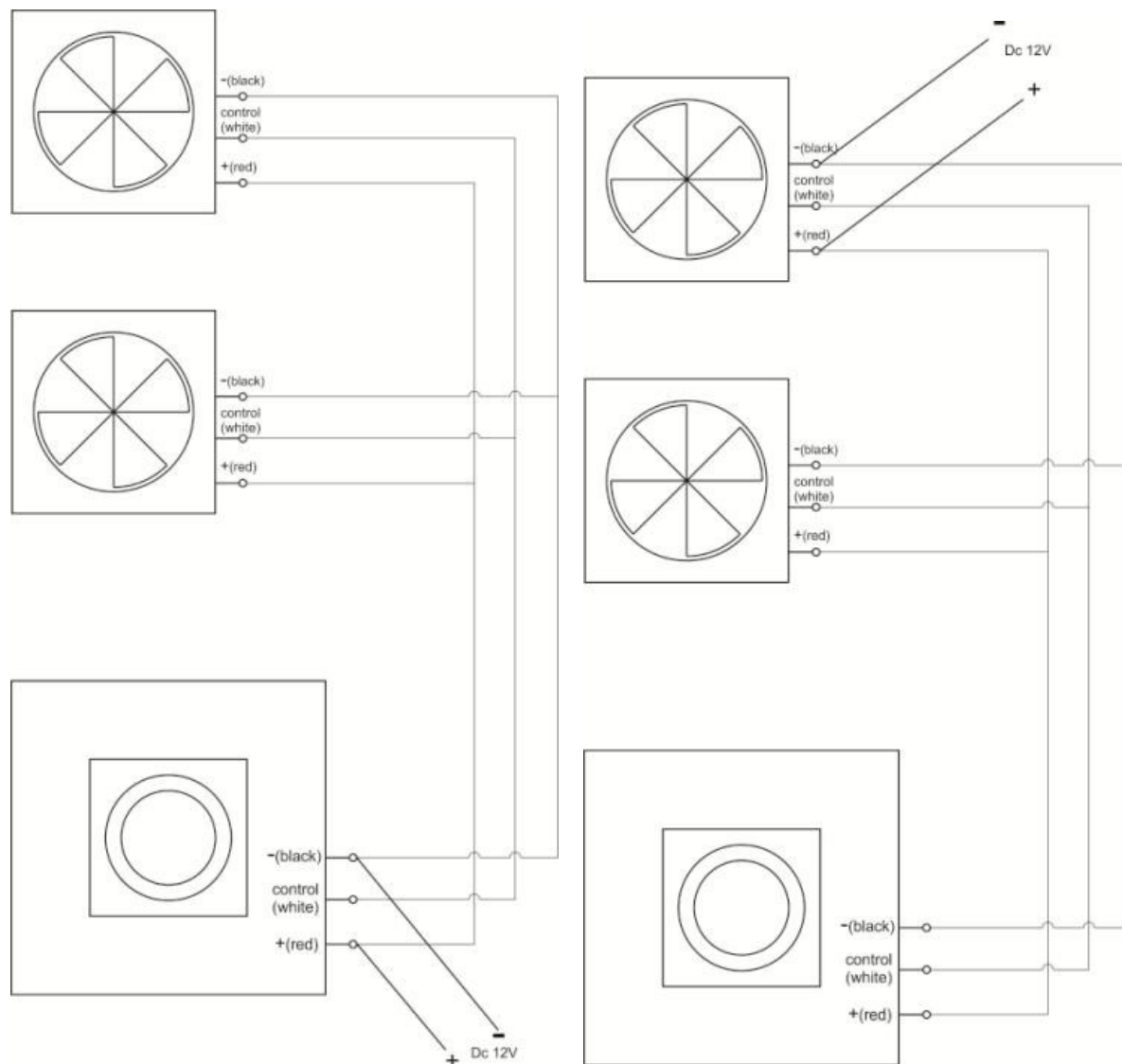
Please note that the Ventoxx Twist control and ventilation **devices are not allowed to connect to a 230 V AC system**. There is a high risk of injury due to electric shock!

### 5.3.1. Wiring schematics for Ventoxx Twist fans and controls



The optimum choice of installation location is shown in the basic wiring diagram. Power can be supplied at any point in this cycle.

Please note the other possible wiring diagrams:



### 5.3.2. Installation of the Ventoxx Twist control in the wall

#### Step 1:

Make a hole in the wall with a diameter of 70 mm and a depth of 120 mm. If you do not want to install the power supply in the mounting box, you can remove the extension cord. In this case, the depth of the hole should be 70 mm.

#### Step 2:

Run the wires and connect the cables to the system elements according to one of the wiring diagrams given in section 5.3.1 of these instructions. We recommend using  $3 \times 0.75 \text{ mm}^2$  wire.

#### Step 3:

Secure the control box to the wall.

**Step 4:**

Connect the power supply with 220 V to the power supply using a connection block. Then connect the 12 V power supply to the Twist control.

**Step 5:**

Install the control in the mounting box so that the regulator button moves clockwise. Press the faceplate down and lock it in place by applying slight pressure.

## 6. Completing the installation and commissioning

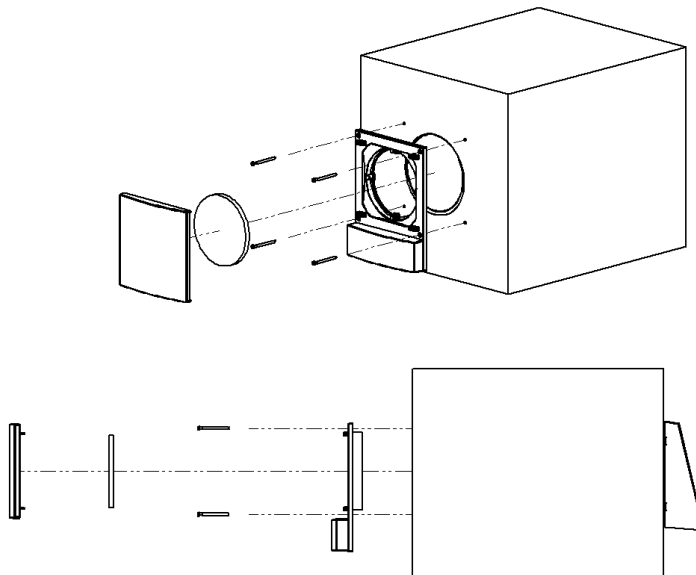
### 6.1. Installing the inner cover

**Step 1:**

Attach the mounting plate to the wall, placing it symmetrically to the hole and mark the points for the mounting anchors with a pencil.

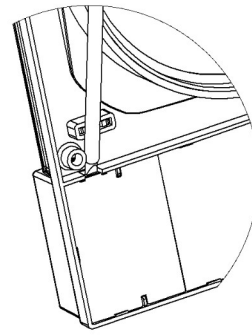
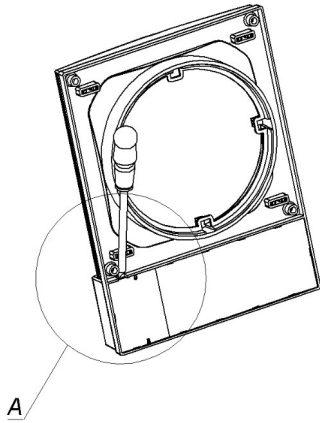
**Step 2:**

Make 4 holes in the wall with a diameter of 5 mm and install dowels deep inside these holes that are suitable for the material and construction of your wall.

**Step 3:**

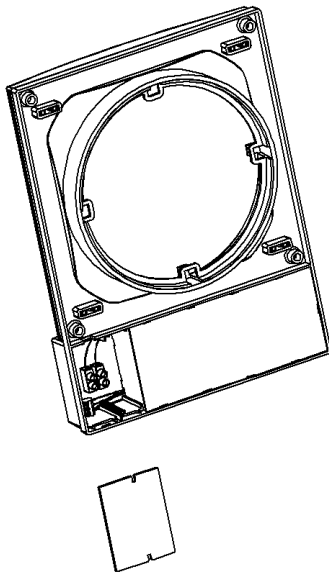
On the back of the inner cover is the mounting compartment that contains the connecting cables with connectors at the ends.

To connect the device to the power supply, use a screwdriver as shown in the figure to hook the cover of the mounting compartment.



**Attention!** Be careful not to damage the electronics compartment cover sealed with seals, damaging them will cause the device to be removed from the warranty.

The two-wire cable with screw terminals (usually white or orange) is designed for a 220 V power supply. The power cable connected to the installation place of the device must be connected to the device cable by previously de-energizing the line for safety.



**Attention!** It is desirable to have a separate 220 V line for the operation of the devices and not to connect powerful electric devices to this line. The power supply and control lines 220 V shall not be adjacent to each other and shall have a minimum distance of 50 mm. If this is not possible, the 220 V line must be placed in a grounded metal hose.

#### **Step 4:**

Make the electrical connection to the power supply in the installation compartment and connect the fan controls via a special connector (see section 5 - The electrical connection of the device). Place the wires from the fan to the green connector between the mounting panel and the wall.

**Step 5:**

Attach the inner cover mounting panel to the wall using a countersunk head screw. Place the filter in its seating position. Then install the sliding part of the cover on the mounting plate. If the installation is done correctly, you will hear a distinctive click.

**Step 6:**

Supply 220 V power to the decentralized heat recovery unit. Check that all devices are working properly.

## **7. Operation of the decentralized heat recovery unit**

### **7.1. Description of Ventoxx Harmony heat recovery unit operation modes**

The decentralized heat recovery unit operates in one of three basic modes:

- Recovery, with sub-mode of air exchange speeds.
- Airing with sub-mode of air exchange speeds.
- Intensive airing.

**Heat recovery operation mode:**

This is the standard mode of automatic ventilation with heat preservation (recovery). In this ventilation mode, the fresh air that enters the room is preheated by the heat of the removed exhaust air. In this way, the heat is kept inside the room, filled with fresh air and excess moisture is removed outside.

**Attention! For the fresh air heat recovery unit operation in hot weather, see section 7.2.**

In heat recovery mode, the ventilation device can operate at speeds from 1 to 3 for the remote control and from 1 to 5 for the Ventoxx Twist control. The choice of speed depends on the size of your room, the need for air exchange at a particular moment and your wishes regarding the intensity of ventilation. For night hours, we recommend setting the minimum airing speed.

The fresh air heat recovery unit automatically reverses direction every 65 seconds, it works alternately for the exhaust and the intake of air. If your room has fresh air heat recovery units installed in pairs, the operation of each pair is always coordinated, with one unit operating in the exhaust phase and the other in the intake phase and vice versa.

The selected speed is displayed as a number on the decentralized heat recovery unit cover and also the blue or red arrow is lit. The red arrow means that the unit

is operating in the exhaust phase and the blue arrow means that it is operating in the intake phase.

If the decentralized heat recovery unit has been switched off in recovery mode, then after the power supply has been switched on again, the decentralized heat recovery unit resumes operation at the same speed that was selected before switching off. At the same time, the master device is switched on in the exhaust phase.

### **Airing mode of operation:**

In the airing mode, the decentralized heat recovery unit performs only air intake or exhaust, in which case no heat recovery occurs. In this way, the air of the outside temperature enters the room. This mode is needed for a short-term and fast air renewal (e.g. on a summer evening or during a heatwave, after a rain) to quickly bring the coolness from the outside into the house.

When you select this operating mode, the fresh air heat recovery unit airs, at the same speed that was selected before airing was switched on. Even if you have paired units operating in your room, in this mode, they will all work synchronously, either for air intake or exhaust, depending on your choice. Using the buttons on the remote control with the indication of the house and the arrow inwards/arrows outwards, the user can select the direction of ventilation: to or from the house.

The airing mode will continue until the user switches it to another mode.

**Warning!** Prolonged operation of the decentralized heat recovery unit in the airing mode leads to the disturbance of the microclimate in the room. Do not allow the room to over-cool in the cold season and overheat in the warm season. Run in this operating mode for **10 minutes maximum**.

### **Intensive airing operating mode:**

This mode is designed for intensive air exchange without heat recovery at maximum speed (above third/fifth speed) for 10 minutes. The direction of airing is indicated by one of the arrows. After 10 minutes, the device automatically switches to the second speed of operation in standard heat recovery mode.

To activate this mode, press the on/off button and the button with the fan symbol on the remote control in sequence. The user has the opportunity to change the direction of air movement independently.

This airing mode is required for quick air renewal (for example, if there is an unpleasant odor in the room).

## **7.2. Automatic ventilation in the hot season**

In summer, the fresh air heat recovery unit works the same way: when recovering, the cool air inside the room is also accumulated in the heat exchanger and is transferred to the warm air coming from the outside, cooling it down. In this way, with the help of the fresh air heat recovery unit during the hot season, it is possible to air the room and simultaneously maintain a comfortable microclimate inside and not to run the heat from the heated air.

Please note that the above effect is only possible with additional sun protection during the hottest hours of the day!

Recommendations for operation of the device in the heat:

- For nighttime hours and during the morning chill, we recommend activating the airing mode with NO recovery in the direction of air intake. This will ensure the fresh air intake of low-temperature air.
- After a thunderstorm or summer rain, when the outdoor air cools down for a while, you can turn on the intensive airing mode for 10 minutes in the direction of air intake. This will allow you to get coolness into the room in a short time.
- If the room has cooled overnight, before the onset of heat, it is necessary to turn on the fresh air heat recovery unit in the heat recovery mode and take care of sun protection, by closing the windows and curtain them with thick curtains or blinds. The less sunlight will get inside, the more effective sun protection will be.
- If there is air conditioning, during a hot day the fresh air heat recovery unit can run in standard heat recovery mode at medium speed. Under this condition, the air-conditioning can be switched on in minimum mode because the fresh air heat recovery unit (unlike an open window) starts fresh air with a temperature, not of the ambient environment but already slightly cooled.
- During the day and the hot hours, the decentralized heat recovery unit automatically airs the room and gives the coolness of the exhaust air to the warm air coming from outside, as well as saturates the room with freshness and maintains the internal microclimate.

## **7.3. Description of the indication symbols on the inner cover of the decentralized heat recovery unit**

The indication on the screen shows the operating mode selected by the user. The user can disable the display by remote control or Ventoxx Twist control - this in



no way affects the operation of devices. When switching the operating modes, the display briefly shows the selected mode and then fades out again. When off, the display is not visible at all on the inner cover of the decentralized heat recovery unit. After switching off and then on, the display remains in the mode selected by the user before the power was switched off.

In the on display mode, you can see the following marks on the cover:

**The horizontal bar** is the power on/off symbol for the device. This is the first symbol you see when the device is powered on. When you turn off the device after turning it on again, the decentralized heat recovery unit automatically selects the operating mode that was selected before it was turned off.

**The numbers from 1 to 3** indicate the selected speed of the decentralized heat recovery unit.

**The red arrow up** means that the master devices are operating in exhaust mode and the slave devices are operating in intake mode.

**The blue arrow down** means that the master devices are operating in air intake mode and the slave devices are operating in exhaust mode.

**The blinking red arrow** indicates that the device is operating in heat recovery (exhaust) mode.

**The blinking blue arrow** indicates that the device is operating in heat recovery (air intake) mode.

**One of the arrows is constantly lit** means that the decentralized heat recovery unit is operating in the intensive airing mode.

**One of the arrows is constantly lit plus a number from 1 to 3** means that the decentralized heat recovery unit is operating in the airing mode, at a speed indicated by the number.

#### **7.4. Control of the heat recovery unit with the remote control**

The remote control allows you to turn the ventilation on/off, select the mode of the fresh air heat recovery unit and its speed. The current operating mode is displayed on the cover through the indication.

Remove the protective plastic wrap from the battery compartment before using the remote control.



- 1 — Turn on / turn off the device.
- 2 — Turn on / turn off the sound (not available on this model).
- 3 — Speed selection from 1 to 3.
- 4 — Turning on the screen indication.
- 5 — Turning off the screen indication.
- 6 — the Intensive Airing mode.
- 7, 8 — the Airing mode (the arrow towards the house is air intake; the arrow away from the house is air exhaust).

### 7.5. Control of the heat recovery unit with the Ventoxx Twist control

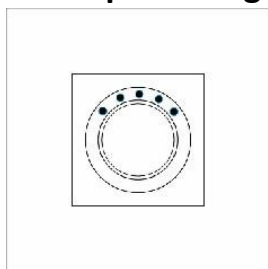
Activation of the decentralized ventilation unit with heat recovery, selection of modes and speeds of work is carried out through the rotary relay, which can be pressed or turned. There is an indication around the relay (viewable only when switched on). The indication through light symbols displays the selected mode or speed. The following will show the placement of the LEDs for each case.

If necessary, the display can be turned off. To do this, press and hold the relay for about 3 seconds. During a further change of the operating mode, the corresponding LEDs will light up briefly (approx. 1 second) and then turn off. To switch on the permanent display, press and hold the relay again for approx. 3 seconds.

**Attention!** In the complete set of the decentralized ventilation units with heat recovery with Ventoxx Twist control, there is no indication on the inner cover of the Ventoxx Harmony HRV!

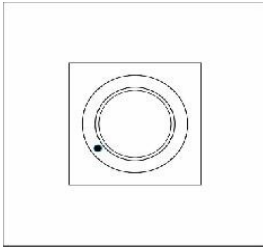
#### Indication on the Ventoxx Twist control and its meaning:

##### The top row of green LEDs (heat recovery mode)



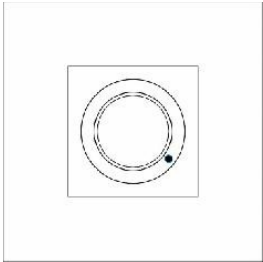
means that the decentralized heat recovery unit is operating in ventilation with heat recovery mode. The number of illuminated green LEDs indicates the speed of operation: one LED is the minimum speed, five are the maximum speed. Turn the relay clockwise to increase speed and counterclockwise to decrease speed.

### The bottom red LED on the left (off)



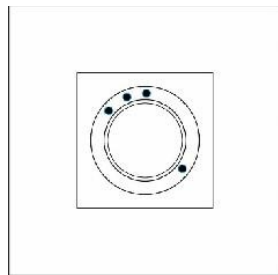
A red LED that glows on the bottom left indicates that the ventilation devices are off, but the power is on.

### The bottom blue LED on the right (airing mode)



The blue LED at the bottom right indicates that the decentralized heat recovery unit is in ventilation mode with no heat recovery. In this mode, the fans work in one direction only and the air that enters the room has the temperature of the outside air.

### Simultaneous indication with different LEDs



Simultaneous indication of the green LEDs at the top and the blue ones at the bottom right means that the decentralized heat recovery unit is operating in airing mode at the corresponding speed.

**To turn the decentralized heat recovery unit on**, you need to turn the relay clockwise. **The standard operating mode, heat recovery**, will be automatically activated. The operating speed can be selected by turning the relay.

**To activate the airing mode with no heat recovery** you need to press the relay button when the standard mode is on. The blue LED at the bottom will additionally light up, the decentralized heat recovery unit will work in the direction of exhaust. If you press the relay button again, the direction of the decentralized heat recovery unit operation will change, i.e. the blue LED will start blinking, the decentralized heat recovery unit will work in the direction of air intake.

**To return to the standard operation mode**, it is necessary to return the relay in either direction.

**To activate the intensive airing mode**, turn the device off by turning the relay counterclockwise. The red LED will light up, then press the button. The blue LED on the bottom left will light up and the decentralized heat recovery unit will start increasing the ventilation power. In this mode, short-term ventilation is performed at maximum fan speed. If you press the button again, the fresh air heat recovery unit will change the direction of airflow. After 10 minutes, the fresh air heat recovery unit will automatically return to the previous mode, heat recovery. If it is necessary to terminate prematurely in this mode, turn the relay to either side.

## **8. Device maintenance**

The maintenance of the ventilation device consists of regular cleaning of the air filter, ceramic exchanger and, if necessary, other components twice a year, before and after the heating season. Every 2 to 3 months, it is recommended to check if the air filter is polluted. In some cases, and depending on the state of the air pollution, cleaning of filters and heat exchangers may be necessary more often than recommended.

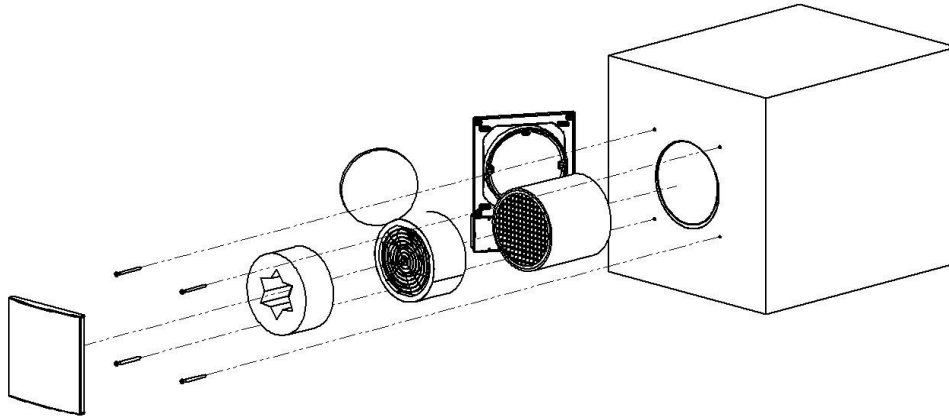
**Warning!** Turn off the power supply before doing any maintenance on the device.

### **8.1. Cleaning and replacing the air filter**

To clean the filter, it is necessary to remove the inner cover, which is located on the decentralized heat recovery unit inside the room. To do this, use two hands to carefully remove the sliding element of the cover from the mounting plate. Remove the filter from the device.

Rinse the filter under running water and leave it to dry. After the filter is completely dry, place it back in its place and reinsert the movable part of the cover.

## 8.2. Cleaning the heat exchanger and other components



### Step 1:

Disconnect power from the unit. Remove the moveable part of the inner cover from the mounting plate. Remove the filter, wash it under running water if necessary and let it dry completely.

### Step 2:

Disconnect the fan wires from the green connector. Hold the mounting plate with your hands and remove the screws, dowels and anchors. Carefully slide the mounting panel, disconnect the wires and remove the panel from the wall.

### Step 3:

Remove the Ventoxx Star sound attenuator (if installed in the HRV) and fan cartridge from the air duct by pulling on the auxiliary cord. Remove the heat exchanger with the cord attached to it.



Be careful not to hit or drop the unit, which could damage the ceramic heat exchanger.

### Step 4:

Rinse the heat exchanger thoroughly under running water and let it dry completely.

### Step 5:

When disassembling the decentralized heat recovery unit, check the degree of contamination of the other elements of the HRV such as fan, blades, air duct walls and sound attenuators. If necessary, carefully clean these elements as described below.

### Step 5a:

Carefully clean the fan with air or a soft sponge or brush. Wiping the fan blades with a slightly damp cloth is also acceptable.



Do not clean the fan under a stream of water or a stream of air with water droplets! Such cleaning methods will inevitably cause damage and malfunction of the fresh air heat recovery unit.

#### **Step 5b.**

Vacuum the air duct and wipe it with a damp sponge, cloth, or brush. Make sure that the limiter glued to the end of the air duct is intact.

#### **Step 5c.**

To clean the Ventoxx Star attenuator, vacuum, blow or rinse it under running water. Machine washing is not allowed! Be sure to dry it completely before installing it back.



Any components of the fresh air heat recovery unit after cleaning are not put back into the unit until they are completely dry!

#### **Step 6:**

Reassemble the fresh air heat recovery unit in reverse order and according to these instructions. Connect the wires and place the movable part of the cover on the mounting plate. Connect the power supply.

Watch "How to replace the filter and clean the heat exchanger in the Ventoxx decentralized heat recovery unit" video instructions:

### **8.3. Troubleshooting errors and malfunctions**

<b>Error</b>	<b>Possible solution: Please check ...</b>
Insufficient air flow	<ul style="list-style-type: none"><li>▪ The selected fan speed, if necessary select a higher speed.</li><li>▪ Whether the movable panel on the inner cover is open. If it is closed, open it.</li><li>▪ Degree of contamination of the filter, clean if necessary.</li><li>▪ Degree of contamination of the heat exchanger, clean it if necessary.</li></ul>

Cold air is blowing.	<ul style="list-style-type: none"> <li>▪ Whether the ventilation units are connected according to the installation instructions and whether the unit pairs are connected correctly.</li> <li>▪ The decentralized heat recovery unit may be on in the airing mode (in this case no heat recovery occurs), switch the unit to standard ventilation mode with heat recovery.</li> </ul>
Unusual noise from the decentralized heat recovery unit appeared.	<ul style="list-style-type: none"> <li>▪ Whether the installation of the fresh air heat recovery unit and controls (in particular after cleaning the filter and/or heat exchanger) has been carried out according to the installation instructions.</li> <li>▪ Whether the fan is dirty or has a foreign object in it, please clean the fan and/or remove any foreign objects.</li> </ul>
Fan shutdown	<ul style="list-style-type: none"> <li>▪ Whether the fan is connected correctly.</li> <li>▪ Whether the power supply is supplied to the fan.</li> <li>▪ Whether the controls are connected correctly.</li> </ul> <p>If you have answered yes to all the previous questions and the problem has not been fixed, perhaps the controls or fan are defective. Please contact the distributor or the manufacturer of the device.</p>

## 9. Quality and warranty

Carefully read the installation and operation instructions of the Ventoxx ventilation device before installing and using it.

**The warranty period for any products by Ventoxx TM is 2 years from the date of purchase. The warranty on the heat exchanger is 10 years.**

Warranty obligations consist in ensuring correct operation of the purchased unit and associated equipment by the manufacturer provided that they are installed, started, used and maintained according to the manufacturer's official instructions for a particular model of the decentralized heat recovery unit, as well as during the warranty period.

The warranty will be invalid in the following cases:

- The protective seals on the mounting plate of the inner cover are damaged.

- The ventilation unit was operating without a filter.
- The ventilation device was exposed to heavy contamination (in particular during a renovation of the premises) due to improper covering of the decentralized heat recovery units and control units against the effects of dust and dirt.
- The filter and the heat exchanger were not cleaned.
- Non-original components were used.
- The design and/or settings of the unit and its controls have been changed without the consent of the manufacturer.

In the event of a breakdown or malfunction during the post-warranty period, contact the distributor from whom the product was purchased. Official Ventoxx representatives check the correct operation of the device, troubleshoot and/or advise on the proper maintenance of the device.

**The warranty is only valid if you have the warranty card!**

**KEEP THE WARRANTY CARD!**

To activate the warranty, go to the QR code and register the device. If you are not able to go to the registration page, write down the twelve-digit number from the box of the device on the warranty card.

**THE WARRANTY CARD**



Purchaser, full name:

---

Ventoxx TM ventilation device installation address:

---

Date of purchase: \_\_\_\_\_ 20\_\_

Date of installation: \_\_\_\_\_ 20\_\_

Warranty to: \_\_\_\_\_ 20\_\_

Warranty on the heat exchanger to: \_\_\_\_\_ 20\_\_

The company that performed the installation:

---

The warranty card was issued by:

---