Installation, Operation and Maintenance instruction   EN

SAVE VSR 700

CE UK CA

Table of contents

1 Introduction

1.1 Product description

This product is a residential ventilation unit that is supplied with rotary heat exchanger. The casing is made from galvanized steel and has mineral wool as insulation.

The product is controlled by a mobile app.

SAVE TOUCH control panel and SAVE LIGHT control panel are available as accessories.

The product is supplied with filters and the SAVE CONNECT module for remote connection as standard.

1.2 Intended use

The product is applicable for room ventilation.

The product is intended for installation in indoor environments with ambient temperatures of between 0-50 °C. Applicable installation locations are for example storage rooms, laundry rooms or attics.

Do not disconnect the electric heater (if available) when outdoor air temperature is very low. The product stops when the supply air temperature decreases bellow 12 °C.

Do not connect tumble dryers to the ventilation system.

The product is intended for continuous operation and must be stopped only for maintenance or service.

The product is not applicable for transportation of air that contains explosive, flammable or aggressive media. The product is not applicable for locations where there is a risk of explosion.

1.3 Document description

This document contains instructions for installation, operation and maintenance of the product. The procedures must be done by approved personnel only.

Speak to Systemair for more information on how to install the product in different installation locations.

1.4 Product overview
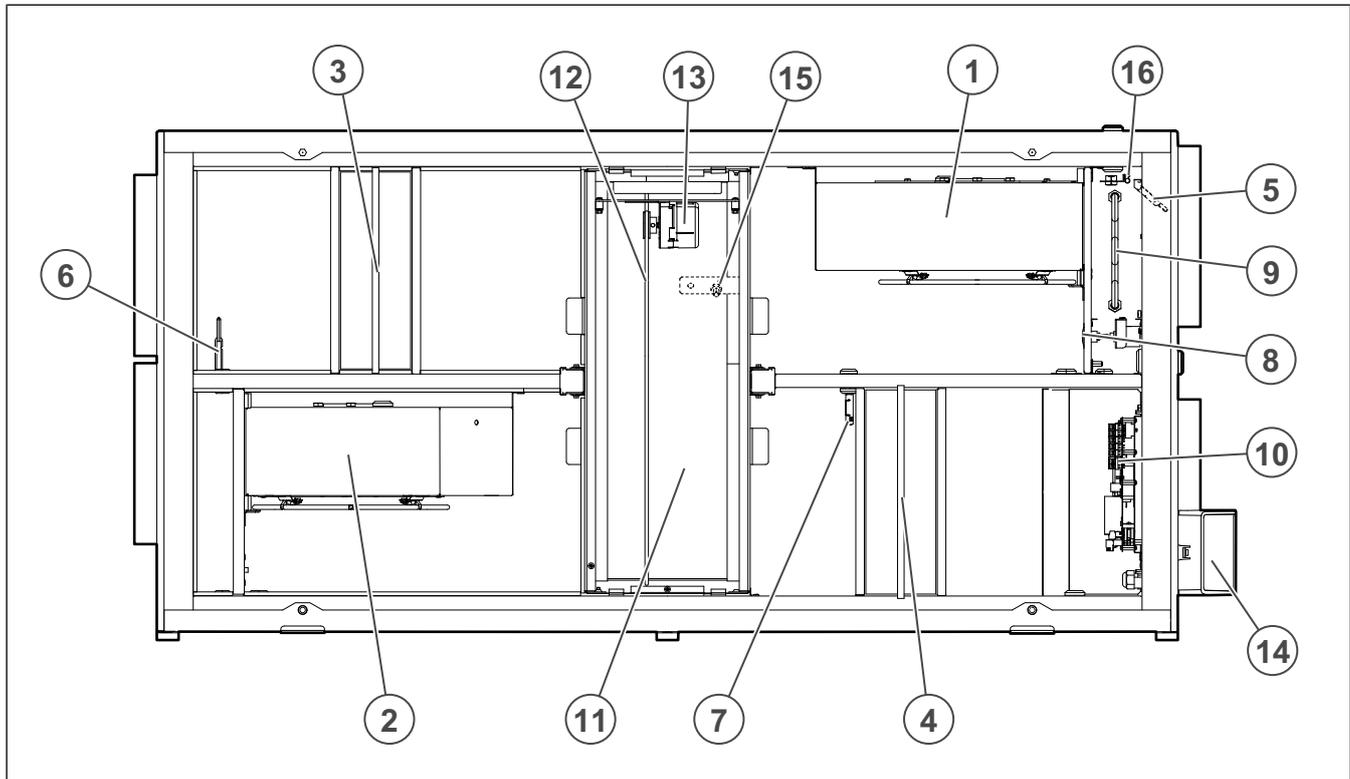
1.	Supply air fan	9.	Internal electrical heater
2.	Extract air fan	10.	Electrical connections
3.	Supply air filter	11.	Rotary heat exchanger
4.	Extract air filter	12.	Drive belt for rotary heat exchanger
5.	Supply air sensor	13.	Rotor motor
6.	Outdoor air sensor	14.	External connections
7.	Relative humidity/Extract air temperature sensor	15.	Rotor sensor
8.	Manual overheat protection reset button	16.	Overheat protection sensor

1.5   Name plate
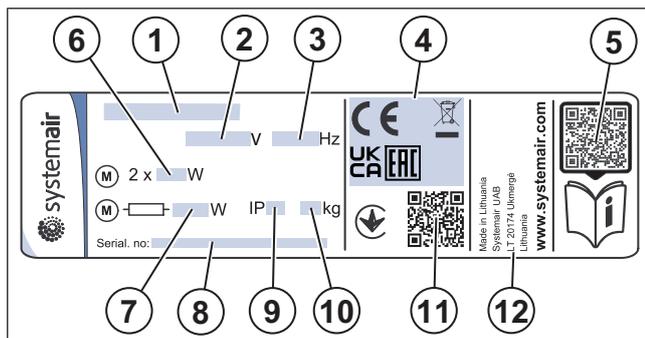
1. Product name

2. Voltage, V

3. Frequency, Hz

4. Certifications

5. Scannable code for the spare parts list and documentation [1]

6. Fans input power, W

7. Total input power, W

8. Serial number: part number/production number/production date

9. IP code, enclosure class

10. Weight, kg

11. Scannable code for manufacturing order number (MO) and software version

12. Country of production

1.6   Product liability

Systemair is not liable for damages that the product causes in these conditions:

- The product is incorrectly installed, operated or maintained.
- The product is repaired with parts that are not original spare parts from Systemair.
- The product is used together with accessories that are not original accessories from Systemair.

2   Safety

2.1   Safety definitions

Warnings, cautions and notes are used to point out specially important parts of the manual.

Warning

If you do not obey these instructions, there is a risk of death or injury.

Caution

If you do not obey these instructions, there is a risk of damage to the product, other materials or the adjacent area.

Note:

Information that is necessary in a given situation.

2.2   Safety instructions

Warning

Read the warning instructions that follow before you do work on the product.

- Read this manual and make sure that you understand the instructions before you do work on the product.
- Obey local conditions and laws.
- The ventilation contractor and the operator are responsible for correct installation and intended use.
- Keep this manual at the location of the product.
- Do not install or operate the product if it is defective.
- Do not remove or disconnect safety devices.
- Make sure that you can read all warning signs and labels on the product when it is installed. Replace labels that have damage.
- Only permit approved personnel to work on the product and to be in the adjacent area during all work on the product.
- Make sure that you know how to stop the product quickly in an emergency.
- Use applicable safety devices and personal protective equipment during all work on the product.
- Before you do work on the product, stop the product and wait until the fan impeller stops.
- If the maintenance is not correctly and regularly done, there is risk of injury and damage to the product.
- Only do the maintenance as given in this manual. Speak to Systemair technical support if other servicing is necessary.
- Always use spare parts from Systemair.
- The product is not to be used by persons, including children, with reduced physical, sensory or mental

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1.   Use a mobile device to scan the scannable code and go to the Systemair documentation portal for more documentation and document translations.

capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction.

• Do not allow children to play with the device.

2.3   Personal protective equipment

Use personal protective equipment during all work on the product.

• Approved eye protection
• Approved protective helmet
• Approved hearing protection
• Approved protective gloves
• Approved protective shoes
• Approved work clothing

3   Transportation and storage

⚠ **Warning**

Make sure that the product does not become damaged or wet during transportation. A damaged or wet product can cause fire or electric shock.

⚠ **Warning**

Use protective gloves during transportation and unload. Sharp edges, nails, staples, splinters can cause injury.

• Before you move the product to the installation location, examine the packaging for damages.

• Do not move the product by the cables or the external connection box.

• If lifting equipment is used, make sure that the lifting equipment can hold the weight of the product. Refer to the name plate for information. Do not lift the product by the packaging.

• Keep the correct side of the packaging up during transportation. Refer to the arrows on the packaging.

• Load and unload the product carefully.

• Keep the product in a dry and clean location during storage. Make sure that the ambient temperature during storage is between –10 and +30 °C. A stable ambient temperature prevents damage from condensation.

• Make sure that the product has protection from condensation during storage. The person who receives the product must make sure that the protection from condensation is sufficient.

• Keep the product in storage for maximum 1 year.

4 Installation

4.1 To do before the installation of the product

- Examine the packaging for transportation damage and re-move the packaging from the product carefully.

- Examine the product and all components for damage.

- Make sure that the information on the name plate agrees with the order confirmation.

- Make sure that all equipment is supplied with the product.

- Make sure to open the product to see if no components are left inside.

- Make sure that you have the necessary installation accessories.

- Install the product in a location where there is space for commissioning, troubleshooting and maintenance. Pref-erably in a separate room (e.g. storeroom, laundry room or similar.).

- Make sure that the installation location is clean and dry, for full safety during electrical work.

- Make sure that the installation surface has sufficient ca-pacity to hold the weight of the product.

- Make sure that the installation surface does not allow vi-bration noise to spread to other locations.
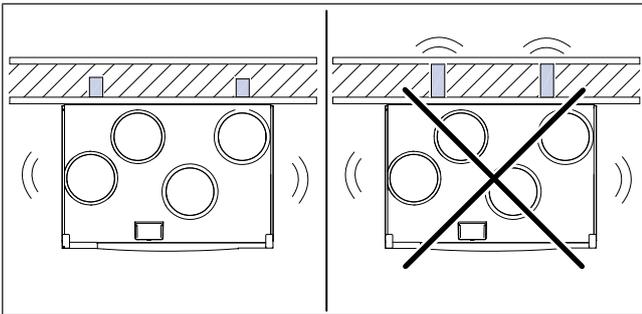
- Make sure that the product can reach the power outlet. The power supply cable length is approximately 1 – 1,5 m.

- Make sure that the installation location has the access to the drainage system.

Note:

Condensate drainage is not necessary if the product oper-ates in dry weather conditions or if the product does not have a drainage connector. Install condensate drainage if the product is installed in areas with high humidity.

Connection for drainage can be ordered as an accessory.

4.1.1 Required space for maintenance
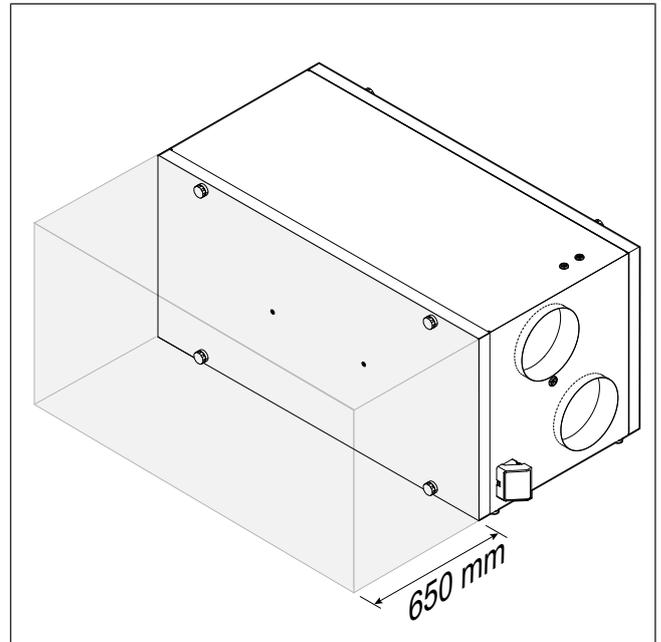
4.1.2 Duct connection overview
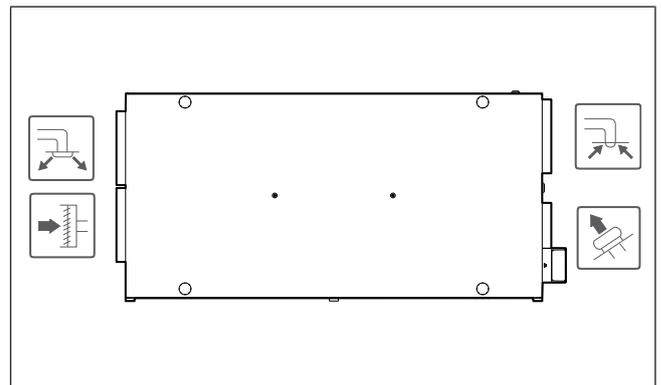
Icon	Description
	Supply air
	Outdoor air
	Extract air
	Exhaust air

4.1.3 Overview of installation positions
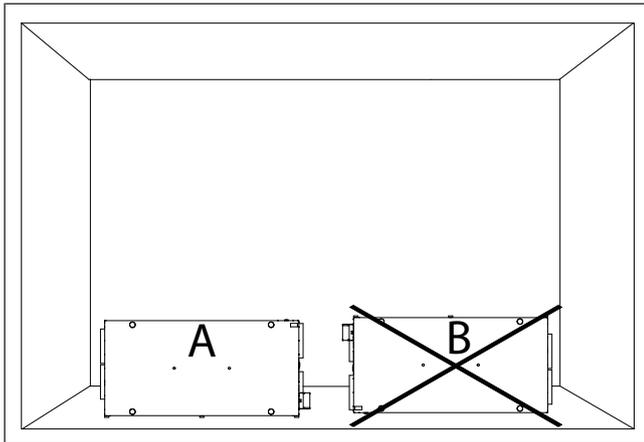
A. Upright installation on the floor. Left and right connections are possible.

B. Upside down installation is not permitted.

4.1.4 To prevent condensation

Make sure that the product operates continuously when connected to a duct system. Continuous airflow prevents condensation. Condensation can cause damage to the product.

4.1.4.1 To prevent condensation inside the product

Install dampers with an automatic closing function in the supply and extract air ducts.

Dampers do not let cold air to go into the product and cause condensation when the product is set to off.

4.1.4.2 To prevent condensation outside of the product

Increase ventilation in the location where the product is installed to prevent condensation outside of the product.

Note:

Condensation outside of the product occurs when the product operates in a humid and warm location when outdoor air temperature is low.

Example A: If the product operates in a location where temperature is 24 °C and outside temperature is –15 °C, then condensation occurs outside of the product when relative humidity is 46% and higher in the installation location.
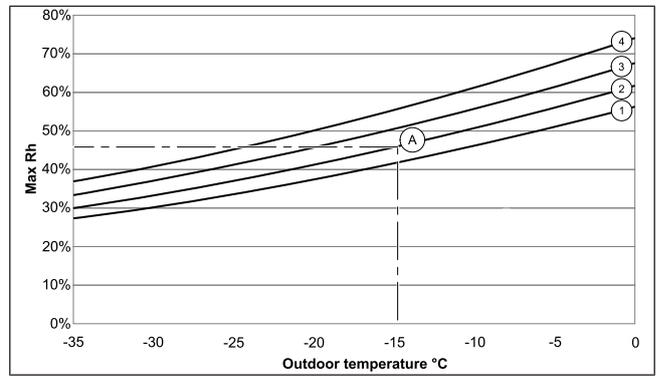
The condensation outside of the product does not occur in zones bellow each curve.

1. Room temperature 26°C

2. Room temperature 24°C

3. Room temperature 22°C

4. Room temperature 20°C

4.2 To install the product
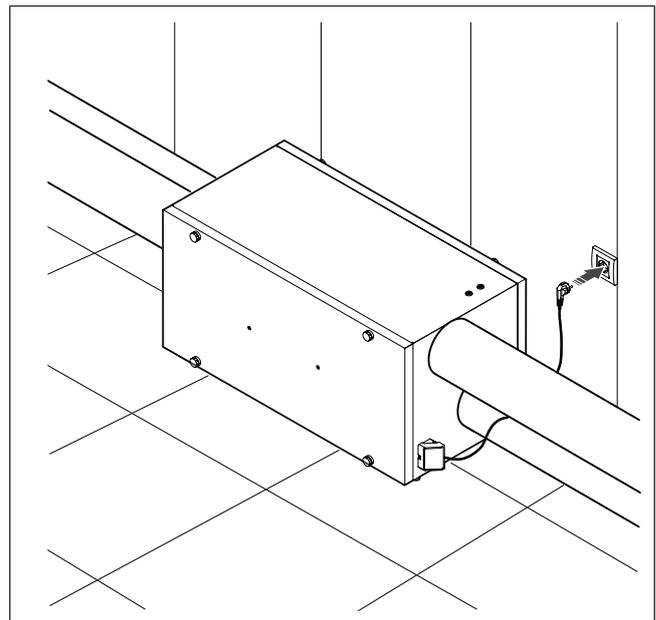
4.3 To connect the product to the ducts

If you install the product near a duct bend, do these steps to prevent vibrations, unwanted noise and decreased air pressure:
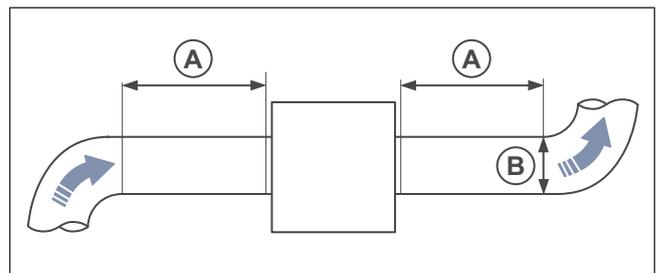
1. Measure the distance (A) between the product and the duct bend.

2. Make sure that the distance (A) is a minimum of 2.5 x the diameter (B) of the duct system. For circular ducts, (B) is the nominal diameter.

4.4 To connect the SAVE CONNECT module
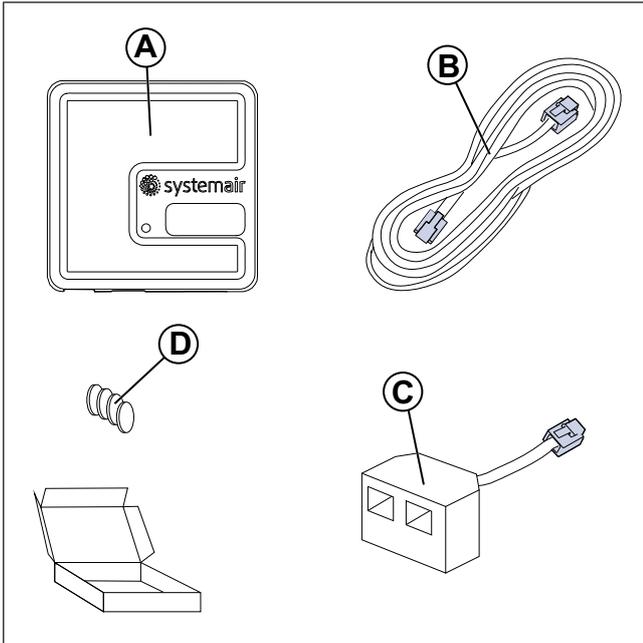
A. SAVE CONNECT module
B. Cable with plugs
C. Diverting plug
D. Magnets with stickers

1

Power off the SAVE unit.

2
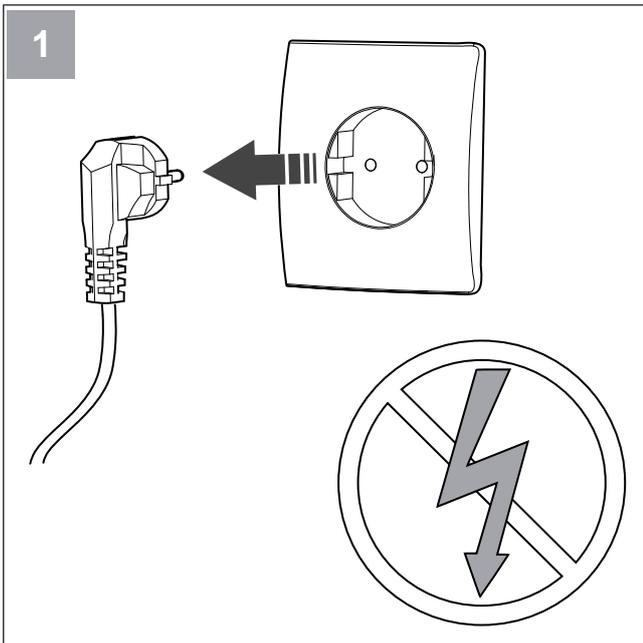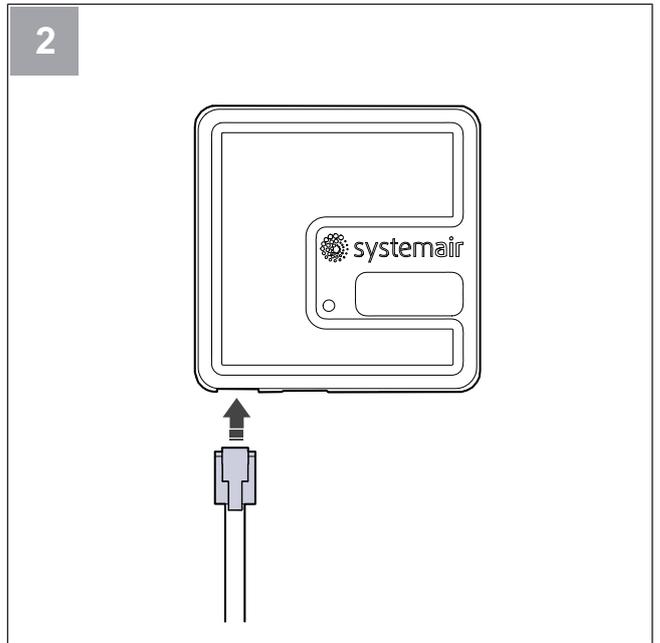
Connect the cable (B) to the SAVE CONNECT module.

2b
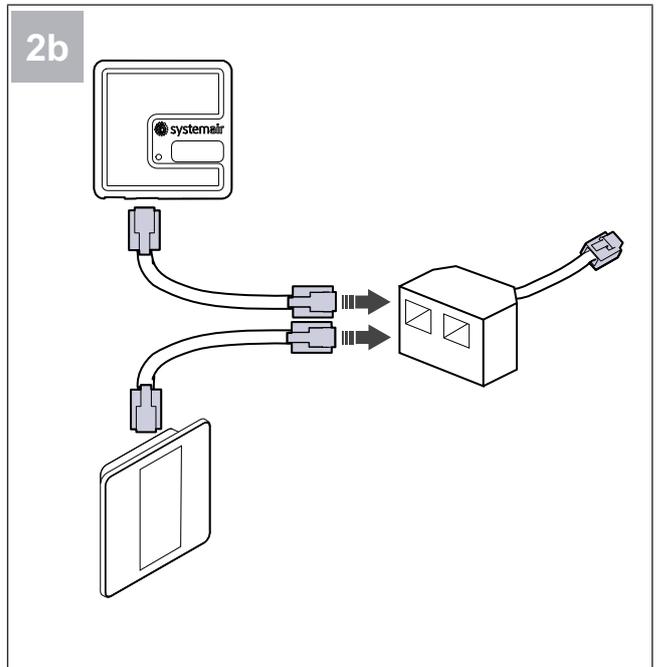
Note:

Use the included diverting plug if the control panel have to be connected to the SAVE ventilation unit together with the SAVE CONNECT module.
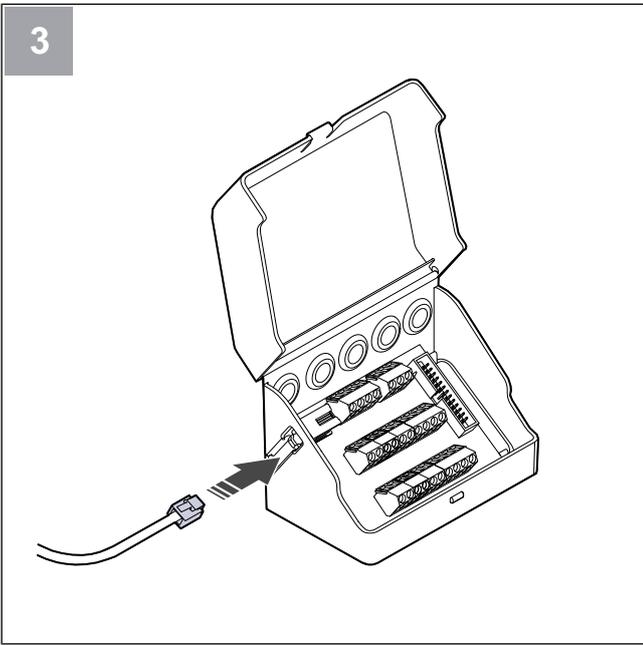
Connect the cable (B) to the connection box.

5 Electrical connection

5.1 Control board

The product is wired internally at factory.

The product has a built-in control board and a connection board for external accessories.
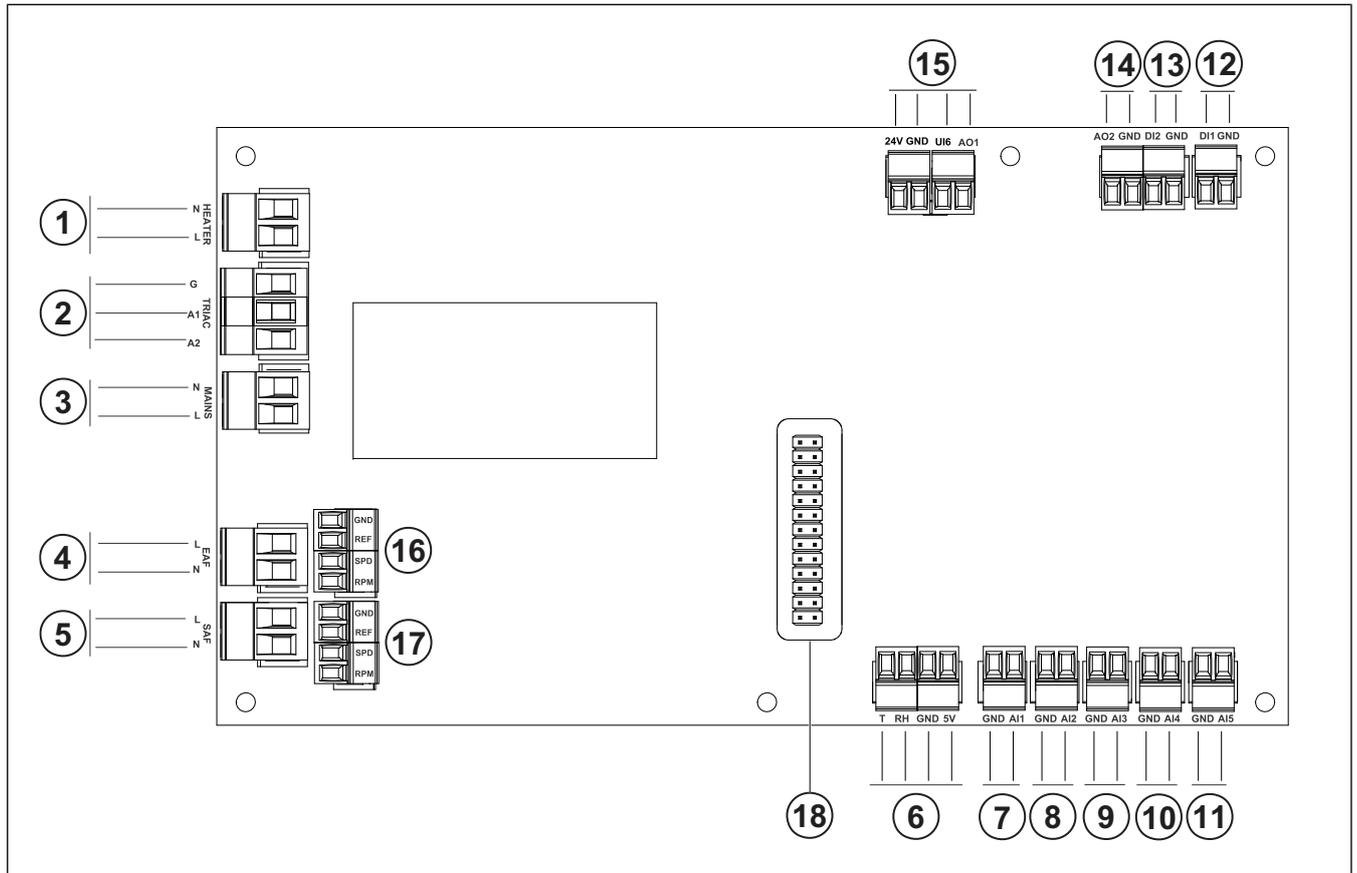
1. Terminals for a heater
2. Terminals for a TRIAC
3. Terminals for the mains power supply
4. Terminals for power supply of extract air fan
5. Terminals for power supply of supply air fan
6. Terminals for internal relative humidity/temperature sensor
7. Analogue input 1 — Outdoor air sensor
8. Analogue input 2 — Supply air sensor
9. Analogue input 3 — Freely configurable
10. Analogue input 4 — Freely configurable

    Overheat temperature sensor (for products with a heater)
11. Analogue input 5 — Freely configurable

12. Digital input 1 — Rotor rotation check sensor (for VSR, VTR models)
13. Digital input 2 — Freely configurable

    Cooker hood (for VTR 150/K model)
14. Analogue output 2 — Freely configurable

    Electrical heater controller (for VTC 700 model)
15. Analogue output 1 — Rotary heat exchanger control signal (for VSR, VTR type models)

    Damper control signal (for VTC, VSC type models)

    UI6 — Bypass damper feedback signal (for VTC, VSC type models)
16. Terminals for speed control of extract air fan
17. Terminals for speed control of supply air fan
18. Terminal for a connection board.

5.2 To connect accessories

Accessories and other components can be connected to the connection board.
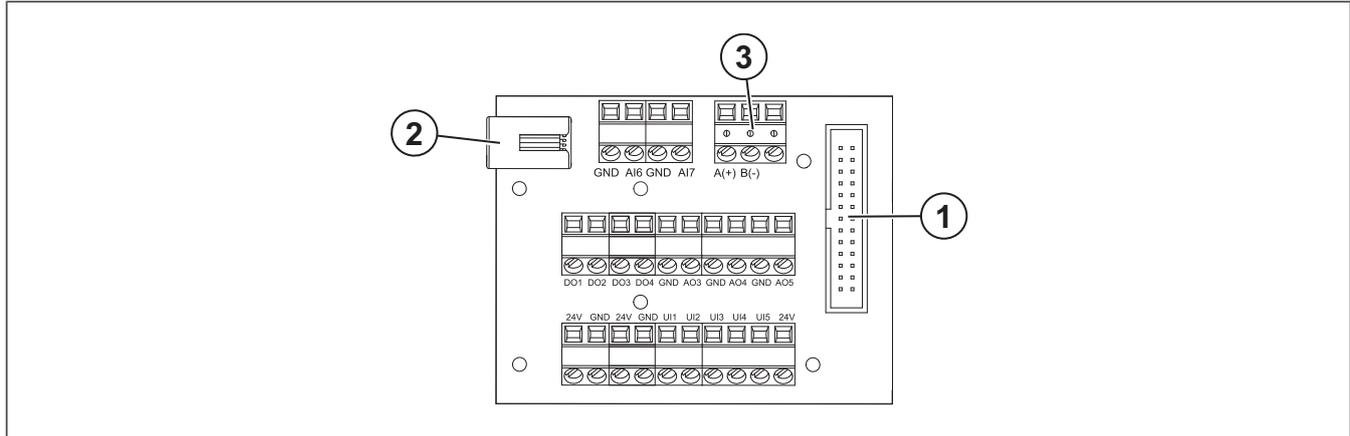
Position	Description
1	Connection to the control board.
2	Socket for the external control panel (SAVE TOUCH, SAVE LIGHT) or the internet access module (SAVE CONNECT).
3	Modbus RS485 connection
AI6–7	Freely configurable analogue input. Input type can be selected.
DO1–4	Freely configurable digital output.
	DO2 default configuration: Outdoor-/Exhaust Air Damper
	DO3 default configuration: Activate Cooling
	DO4 default configuration: Sum Alarm
AO3–5	Freely configurable analogue output. Actuator type 0–10V, 10–0V, 2–10V, 10–2V.
	AO3 default configuration: Heating (only for VTC 200/300/500/700, VTR 100/700 type models).
	AO4 default configuration: Cooling
UI1–5	Freely configurable universal input. Can be set as analog input (0–10 V) or a digital input (24 V).
	UI1 default configuration: Pressure guard
	UI2 default configuration: Cooker hood
	UI3 default configuration: Fire alarm
	UI4 default configuration: Refresh
24V	Maximum current 200mA at 24VDC +-10%.

6 Commissioning

The commissioning report is found at www.systemair.com.

6.1 To do before the commissioning

- Make sure that the installation and electrical connection are correctly done.
- Visually examine the product and accessories for damage.
- Make sure that the safety devices are correctly installed.
- Make sure that there are no blockages in the air inlet and the air outlet.
- Make sure that installation material and unwanted objects are removed from the product and the ducts.
- Make sure that ducts are sufficiently insulated and installed according to local rules and regulations.
- Make sure that the outdoor and exhaust air dampers and silencers are installed.
- Make sure that the duct system is correctly connected to the product.

6.2   To do the commissioning
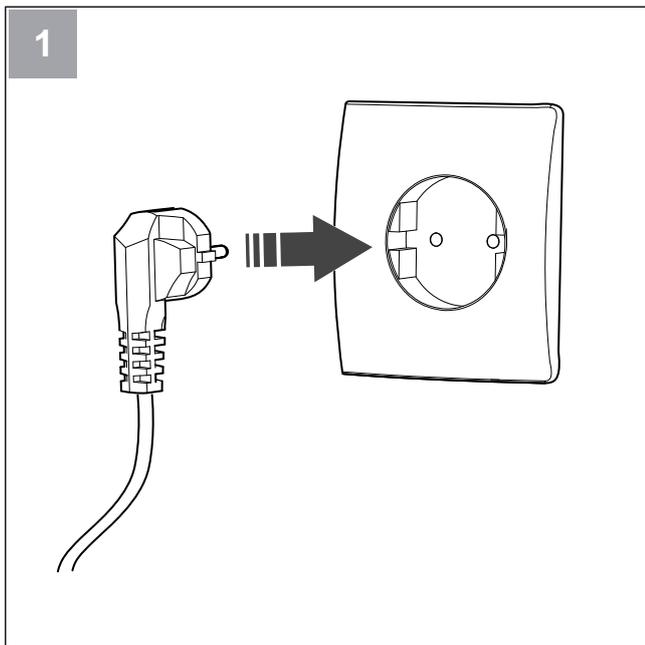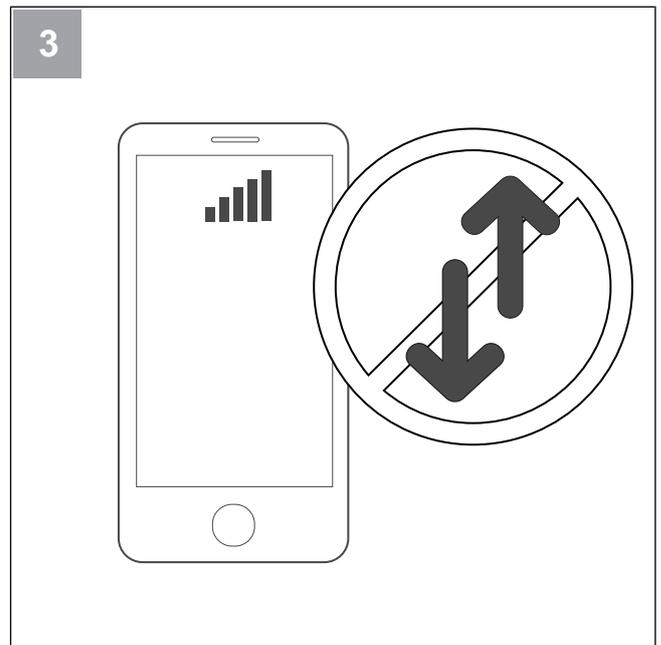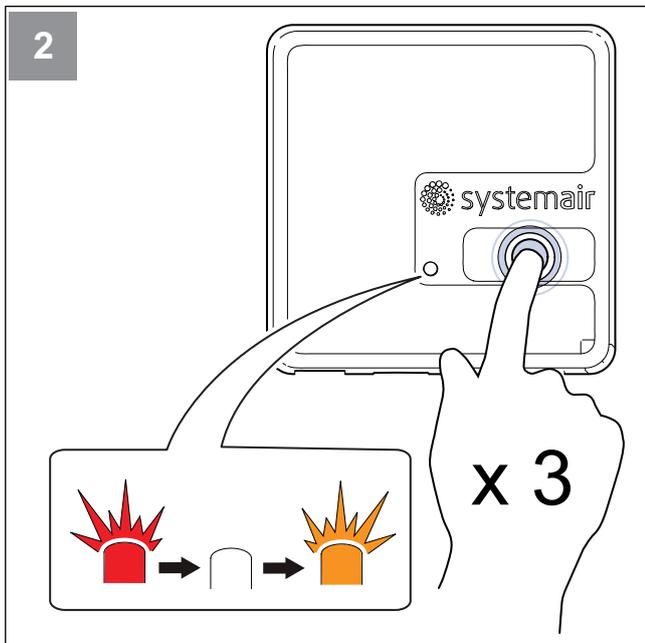
1

Power up the SAVE unit.

2

Press the button on the SAVE CONNECT module 3 times very quickly. The LED will start to flash **orange**.

3

Turn off mobile data on your phone.

4

Scan for Wi-Fi networks on your mobile phone. Connect to the **SaveConnect** Wi-Fi. Use the password **1234abcd**.

Password
1234abcd

5

Scan the code or go to the web app **http://192.168.4.1**.

6

Menu
MAC address

- 🏠 **Home**
- ⓘ Unit information >
- ⚠ Alarms >
- 🗓 Week Schedule >
- ▽ Filter >
- ☑ System Preferences >
- ⚙ Configuration >
- 🖧 Network settings >

Home

Changer User Mode {remaining time}

| Currently active user mode | ⌄ |

Airflow Setpoint

| Low | ⌄ |

Temperature setpoint (12-30 °C)

| 20 |

ECO mode

| On | ⌄ |

Startup wizard status

| Enabled | ⌄ |

| Enabled |
| Disabled |

Set
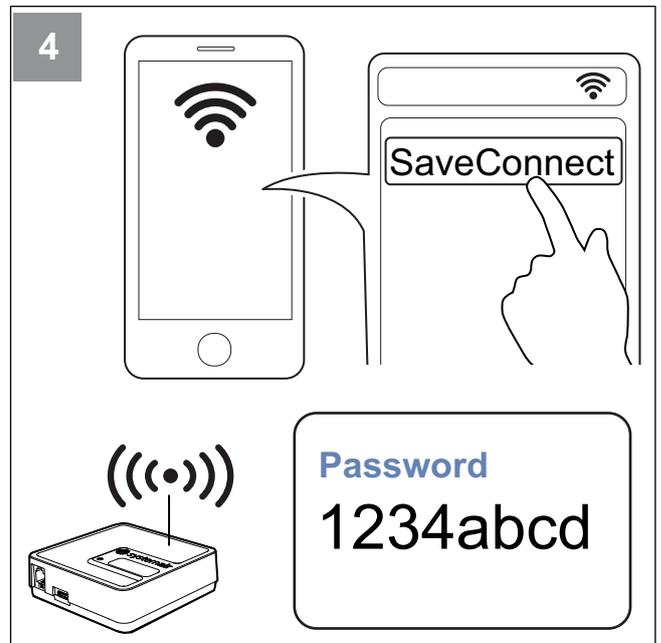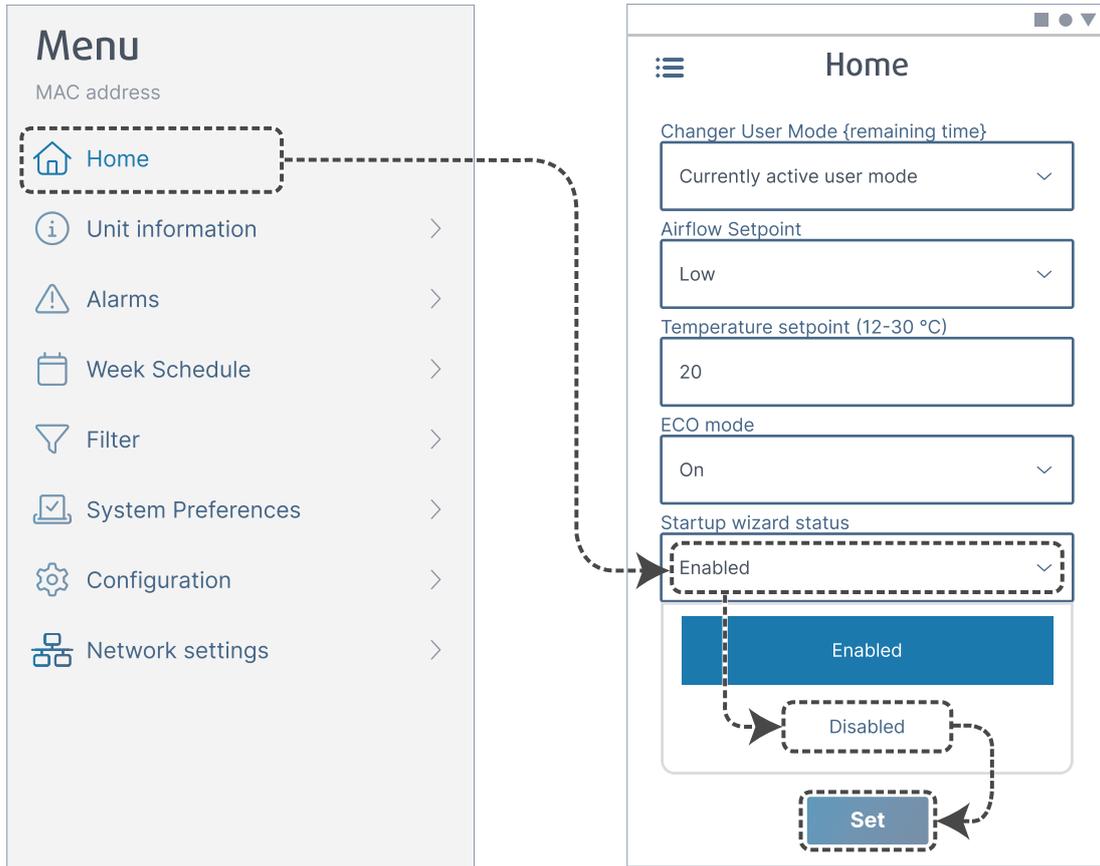
Disable the Startup wizard to make sure it is not shown after commissioning is done.

7

Menu
MAC address

🏠 Home 〉

ⓘ Unit information 〉

⚠ Alarms 〉

🗓 Week Schedule 〉

▽ Filter 〉

☑ System Preferences 〉

⚙ Configuration

品 Network settings 〉

■ ● ▼

≡ **Configuration**

⤓ Input
Configure analog, digital and 〉
universal input

⤒ Output
Configure analog and digital output 〉

▣ Components
Configure connected components 〉

⚙ Control regulation
Configure how the system is 〉
regulated

👤 User Modes
Set airflow levels, durations and 〉
offsets

.ıl Communication
Configure modbus and wireless 〉
settings

🕓 Unit Backups
Manage unit settings backup 〉

🔒 Password Settings 〉

■ ● ▼

← **Control Regulation**

Temperature Control 〉
Configure temperature controller settings

ECO Mode 〉
Configure ECO mode settings

Fan Control 〉
Configure airflow and fan settings

Demand Control 〉
Configure IAQ sensors and settings

Moisture Transfer Control 〉
Configure the moisture transfer functionality

Cooling Control 〉
Configure cooling recovery and free cooling
settings

■ ● ▼

← **Fan Control**

Airflow Type

RPM ⌄

Manual

RPM

Pressure

Flow

External

Manual Fan Stop 🔵
Configure airflow levels

Outdoor Compensation 〉
Configure the compensation settings

Set

If necessary, change the type of fan control. Press the button **Set** to save changes.

8

Fan Control

Airflow Type

RPM

Unit

rpm

P-Band

2500 rpm

I-Time

5 s

Airflow Levels Settings
Configure airflow levels

Manual Fan Stop
Configure airflow levels

Outdoor Compensation
Configure the compensation settings

Set

Airflow levels

Supply (500-5000 RPM)

Max. level

5000

High level

2700

Normal level

2300

Low level

1600

Min. level

500

Extract (500-5000 RPM)

Max. level

5000

Set

Configure supply and extract fan speed for each airflow level. Press the button **Set** to save changes.

9

Menu

MAC address

🏠 Home

ⓘ Unit information

⚠ Alarms

📅 Week Schedule

▽ Filter

☑ System Preferences

⚙ Configuration

🖧 Network settings

Unit Date and Time

Unit Date and Time
20.06.2022   02:21:46 PM

DST automatic changing

Use 24 Hours Time Format
Example 13:00

System Preferences

Unit Country
Lietuva

Unit Date and Time
20.06.2022   02:21:46 PM

Set
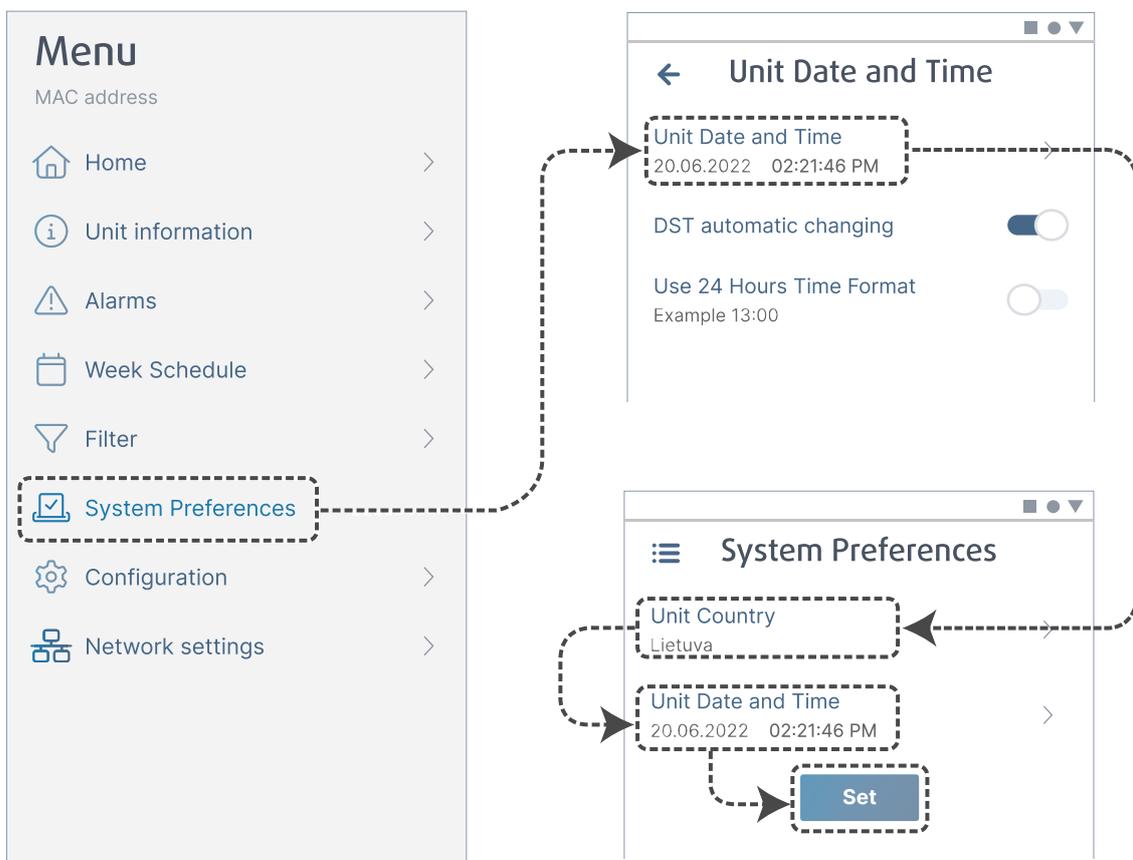
Select your country and configure date and time. Press the button **Set** to save changes.

10

Menu

MAC address

⌂ Home   >

ⓘ Unit information   >

⚠ Alarms   >

📅 Week Schedule   >

▽ Filter

✅ System Preferences   >

⚙ Configuration   >

🖧 Network settings   >

■ ● ▼

≡   Filter

Change filter period

New filter period   6

11 months to replacement remaining

[Set]
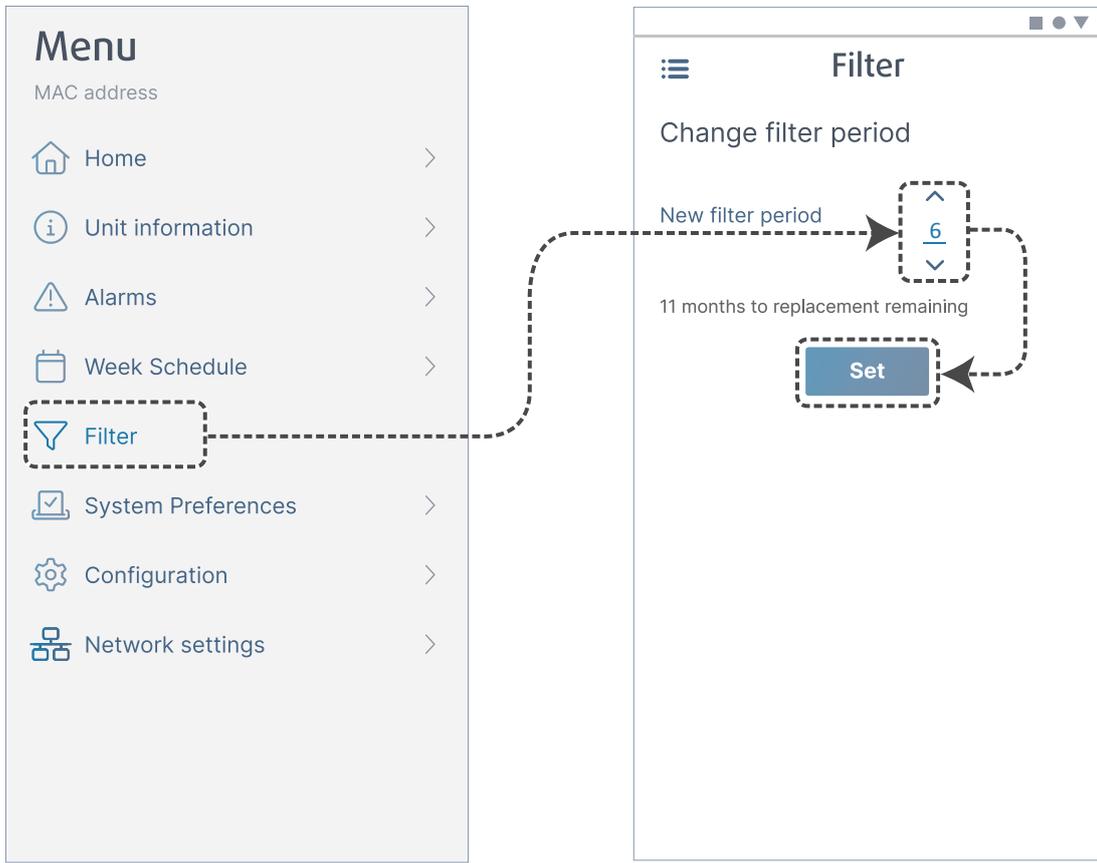
Reset filter change timer and set new filter period. Press the button **Set** to save changes.

11

Menu
MAC address

🏠 Home   >

ⓘ Unit information   >

⚠ Alarms   >

🗓 Week Schedule   >

▽ Filter   >

☑ System Preferences   >

⚙ Configuration

⧉ Network settings   >

■ ● ▼

☰ **Configuration**

⬇ **Input**
Configure analog, digital and   >
universal input

⬆ **Output**
Configure analog and digital output >

⬚ **Components**
Configure connected components   >

⚙ **Control regulation**
Configure how the system is   >
regulated

👤 **User Modes**
Set airflow levels, durations and   >
offsets

▮ **Communication**
Configure modbus and wireless   >
settings

↺ **Unit Backups**
Manage unit settings backup   >

🔒 **Password Settings**   \

■ ● ▼

← **Components**

Heat Exchanger
Rotating   >

Heater
Electrical   >

Cooler
None   >

Extra Controller
None   >

■ ● ▼

← **Heater**

Type
| Electrical   ⌄ |

Actuator
| 0 - 10 V   ⌄ |

Set

■ ● ▼

← **Heater**

Type
| None   ⌄ |

| **None** |

Electrical

Water

If necessary, disable the heater. Press the button **Set** to save changes.

6.2.1 To do commissioning via SAVE TOUCH

1. Start the product.

2. Wait for the control panel to turn ON.

3. Press **Next** to start the Startup Wizard.

   Press **Next** to go to next screen or press **Previous** to go back previous screen anytime during the Startup Wizard.

4. Select the language.

   Press Up and Down arrows on the right of the screen to see all languages.

5. Press **OK**.

6. Set date and time. Press up or down arrows to increase or decrease the value.

7. Press **Next**

8. Select the airflow type.

Note:

Select **RPM** option only if revolutions per minute for fans are included in the ventilation system project.

9. Press **Next**.

10. Set the speeds of supply air fan for each level. Press up or down arrows to increase or decrease the value.

11. Press **Next**.

12. Set the speeds for extract air fan for each level. Press up or down arrows to increase or decrease the value.

13. Press **Next**.

14. Review all settings. Press icon at the top right corner to go to other screen window. Press **Previous** to go to the previous menus if modifications need to be made.

15. Press **Next**.

16. Select the heating type.

Note:

Make sure that selected heating type is available for the installed product.

17. Press **Next**.

18. Reset filter change timer if necessary. Select **Yes** or **No**.

19. Press **OK** to finish the Startup Wizard.

20. Make sure that all changed settings after the Startup Wizard are written in the commissioning report.

7 Operation

The product can be controlled in different ways:

- **SAVE CONNECT** – wireless control with a mobile application.

- **SAVE LIGHT** – control panel with basic features.
- **SAVE TOUCH** – control panel with advanced features.

7.1 To make the internet connection

To control the SAVE ventilation unit with a mobile app, you must first have to connect the SAVE CONNECT module to your home Wi-Fi network.
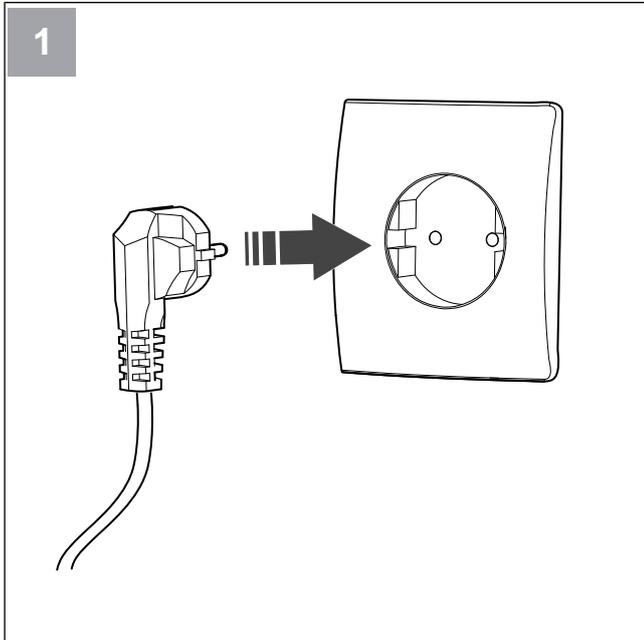
Power up the SAVE unit.
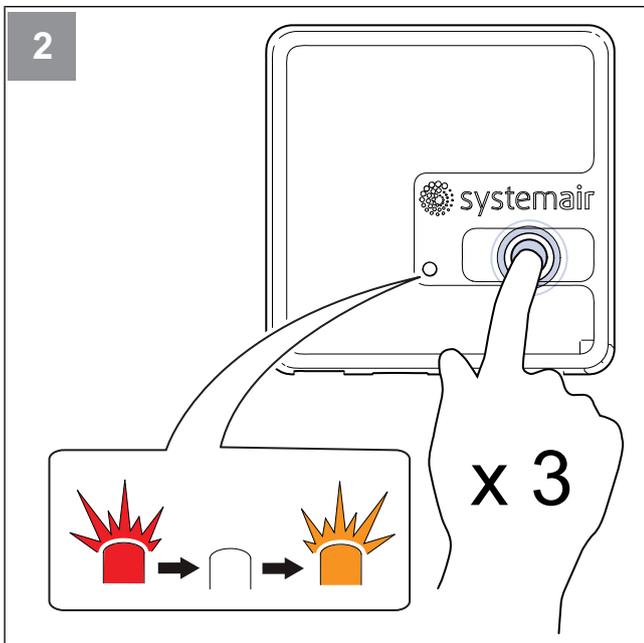
Press the button on the SAVE CONNECT module 3 times very quickly. The LED will start to flash **orange**.
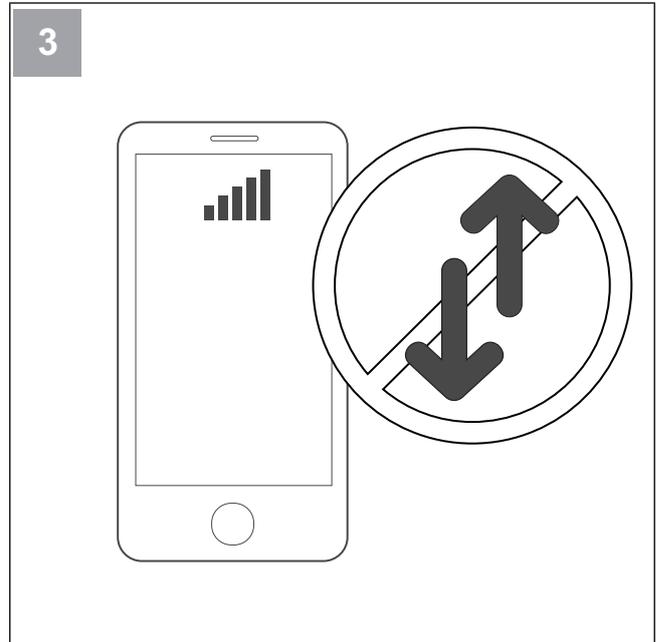
Turn off mobile data on your phone.
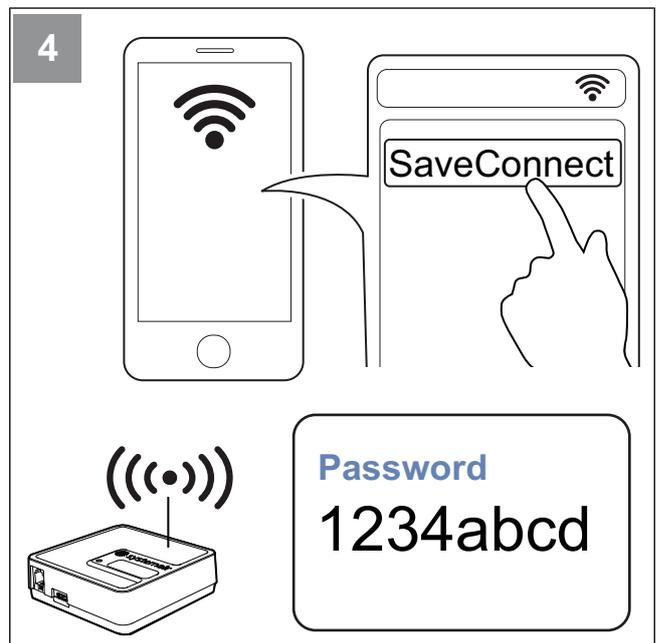
Scan for Wi-Fi networks on your mobile phone. Connect to the **SaveConnect** Wi-Fi. Use the password **1234abcd**.

5

Scan the code or go to the website **http://192.168.4.1**.

6
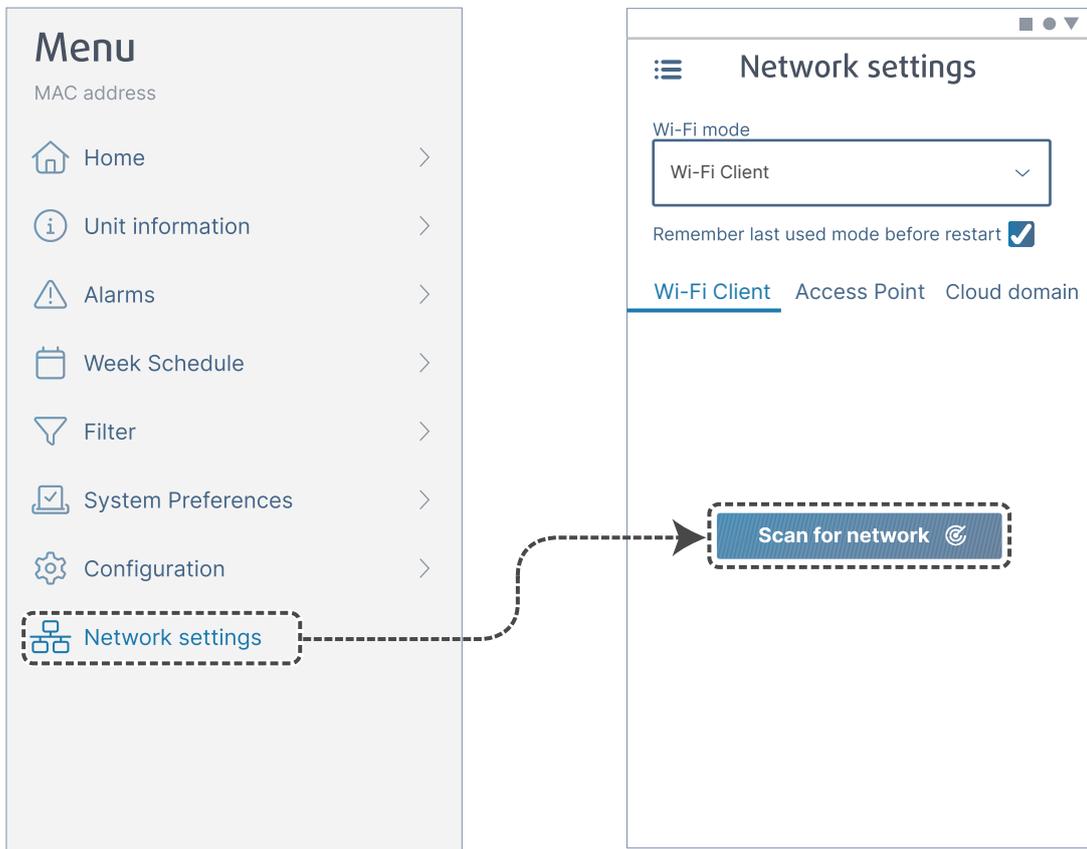
Go to menu **Network settings**. While in Wi-Fi mode, press the button **Scan for network**.

7

Network settings

Wi-Fi mode

Wi-Fi Client ⌄

Remember last used mode before restart ✓

Wi-Fi Client   Access Point   Cloud domain

☐ HOME WIFI

☐
☐
☐
☐

Connect

Network settings

Wi-Fi mode

Wi-Fi Client ⌄

Remember last used mode before restart ✓

Wi-Fi Client   Access Point   Cloud domain

✓ HOME WIFI

****

☐
☐
☐
☐
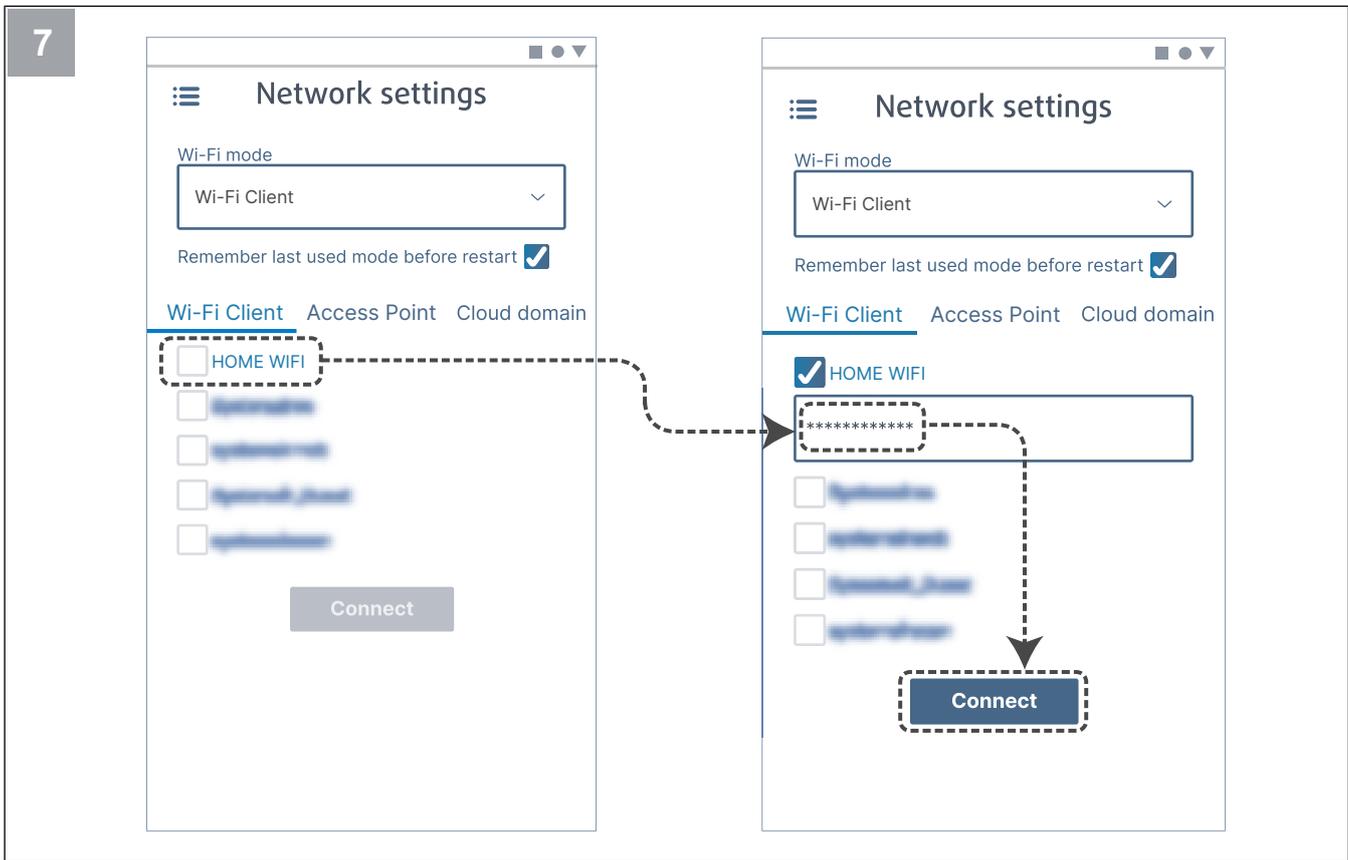
Connect

Select your home Wi-Fi and enter your Wi-Fi password. Press the button **Connect** to save.

Home Wi-Fi must be protected by a password of at least 8 characters.

8
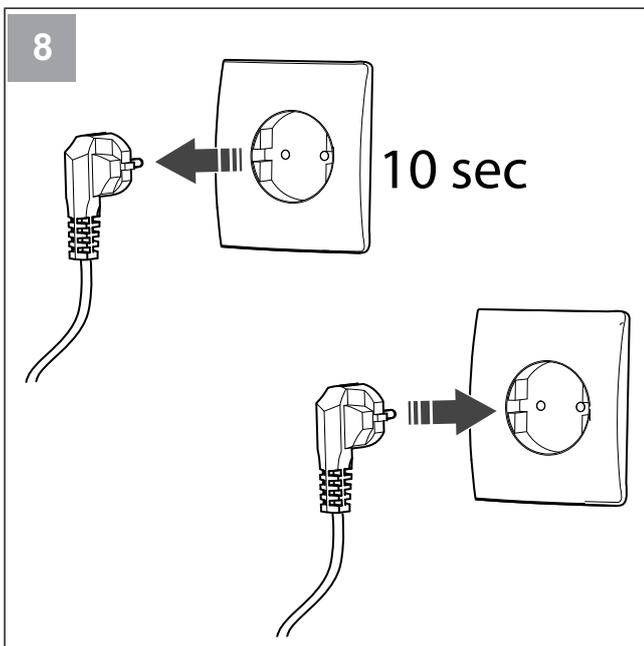
10 sec

Power off the SAVE unit for 10 seconds, then power up again.

The LED will start to flash **green**.

Go to the chapter to complete the connection procedure.

7.1.1 To download the mobile app

Download and install the **SAVE CONNECT** app from Google Play [2] or the App store [3].

Follow instructions on the **SAVE CONNECT** app to complete the connection procedure.

7.2 To operate the mobile app or SAVE TOUCH

- To change a setting, press the value and change to the new setting in the menu that is shown. Press **OK** or **Set** to keep the setting.

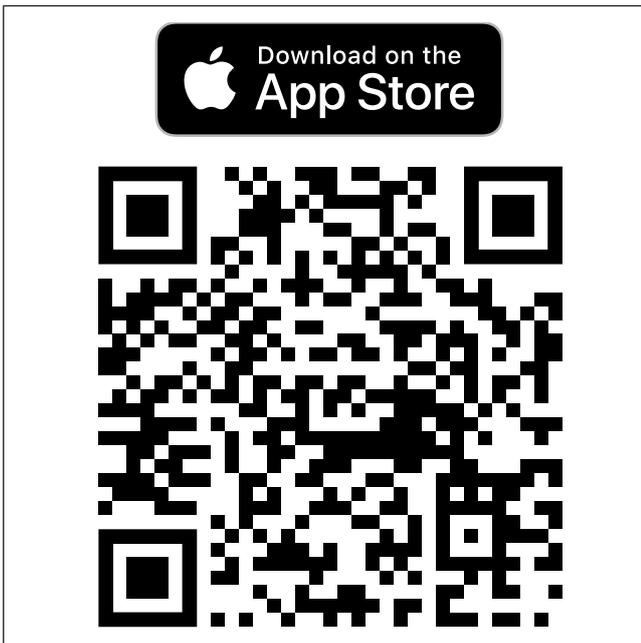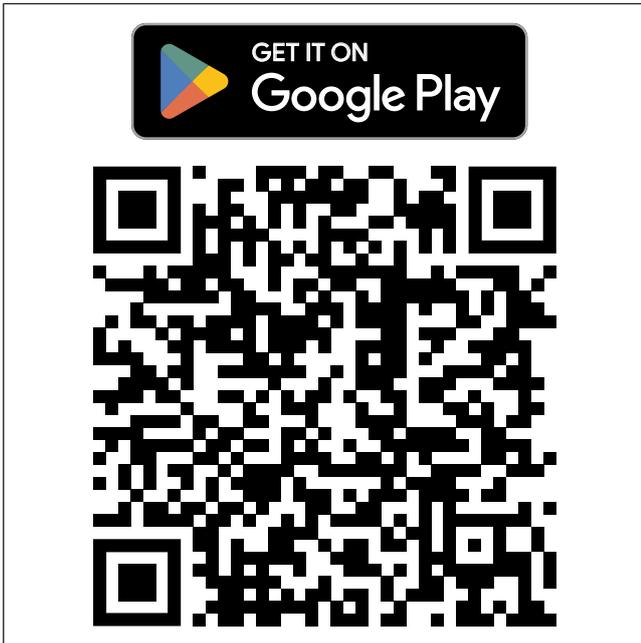|	
<	Press the back arrow to go back.
1/2→	Press page icon to go to the next page.
∧	Press up arrow to increase the value.
∨	Press down arrow to decrease the value.
⬤▬	Press the slider to start or stop the function. White indication — function is OFF, green indication — function is ON.

- Press **Cancel** to discard changes.
- Use the keyboard to type text. The keyboard is shown at the bottom of the screen where applicable.
- Touch the SAVE TOUCH screen to make selections.

Note:

The screen is sensitive. Touch the screen with a light pressure.

- Touch the SAVE TOUCH screen to stop sleep mode.

---

2.   Google Play and the Google Play logo are trademarks of Google LLC.
3.   App store and Apple logo are trademarks of Apple Inc.

7.2.1   Overview of the home page
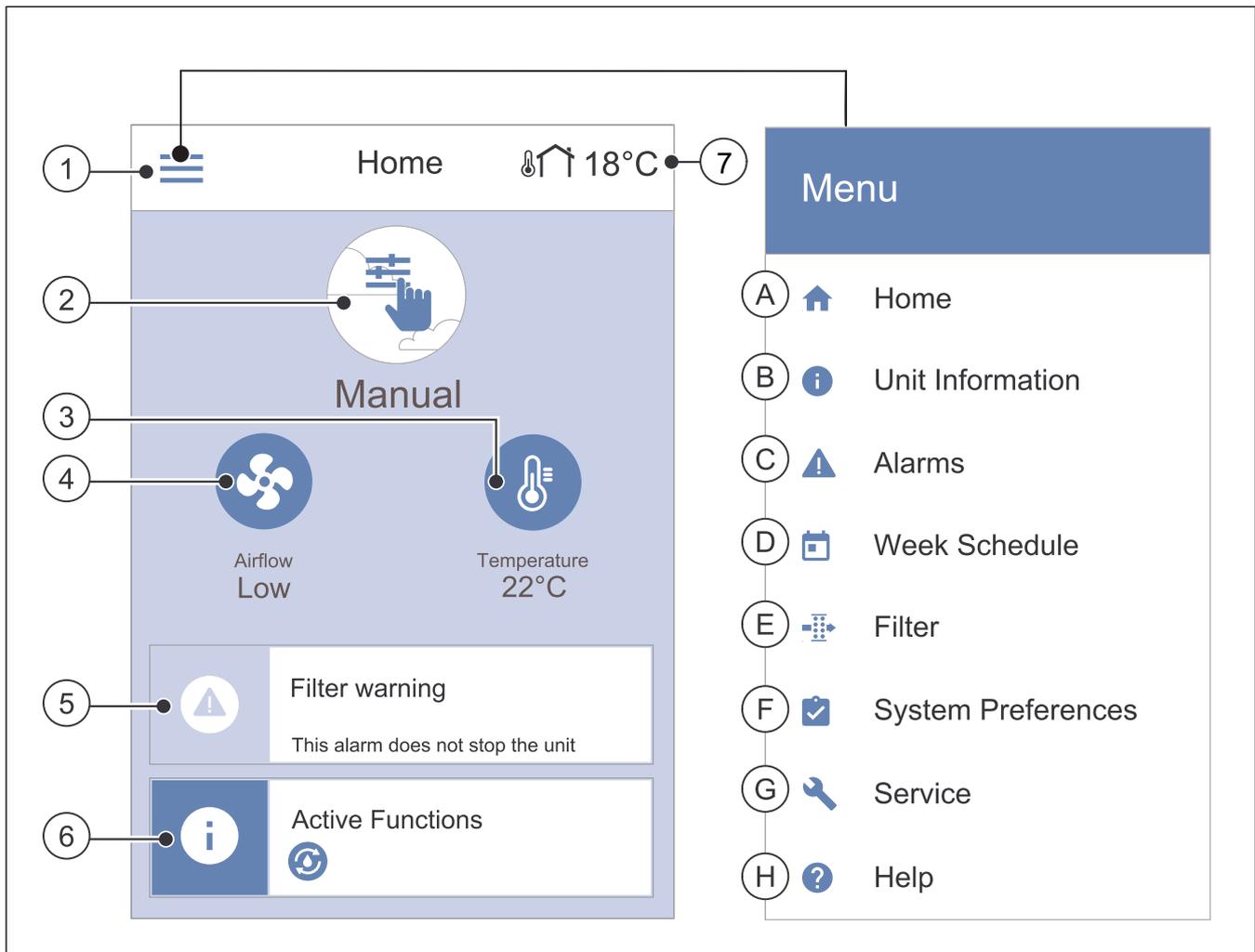
1. Menu
2. Active user mode
3. Temperature settings
4. Airflow settings
5. Alarms bar
6. Status bar
7. Outdoor temperature

A. Return to home screen
B. Basic read-only information about the unit
C. Currently active alarms and alarm history
D. Configure and check week schedule
E. Check and change remaining time till filter change
F. General system preferences
G. Configuration of all system parameters
H. Help and troubleshooting menu

7.2.2   To change airflow
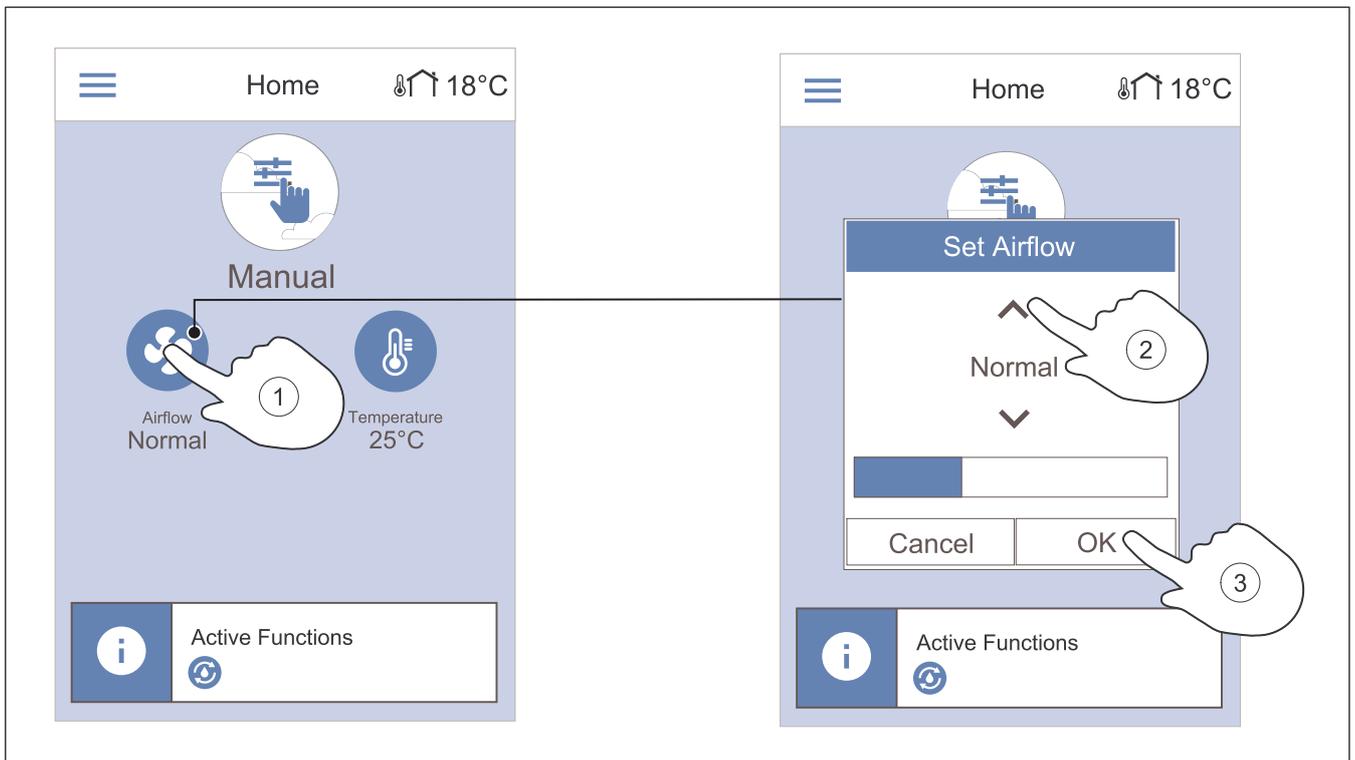
1. Touch the fan symbol on the home screen.
2. Touch the up or down arrows to increase or decrease the airflow.
3. Touch the **OK** button to confirm selection.

Note:

Airflow control is only possible in a **Manual** mode.

7.2.3   To change temperature
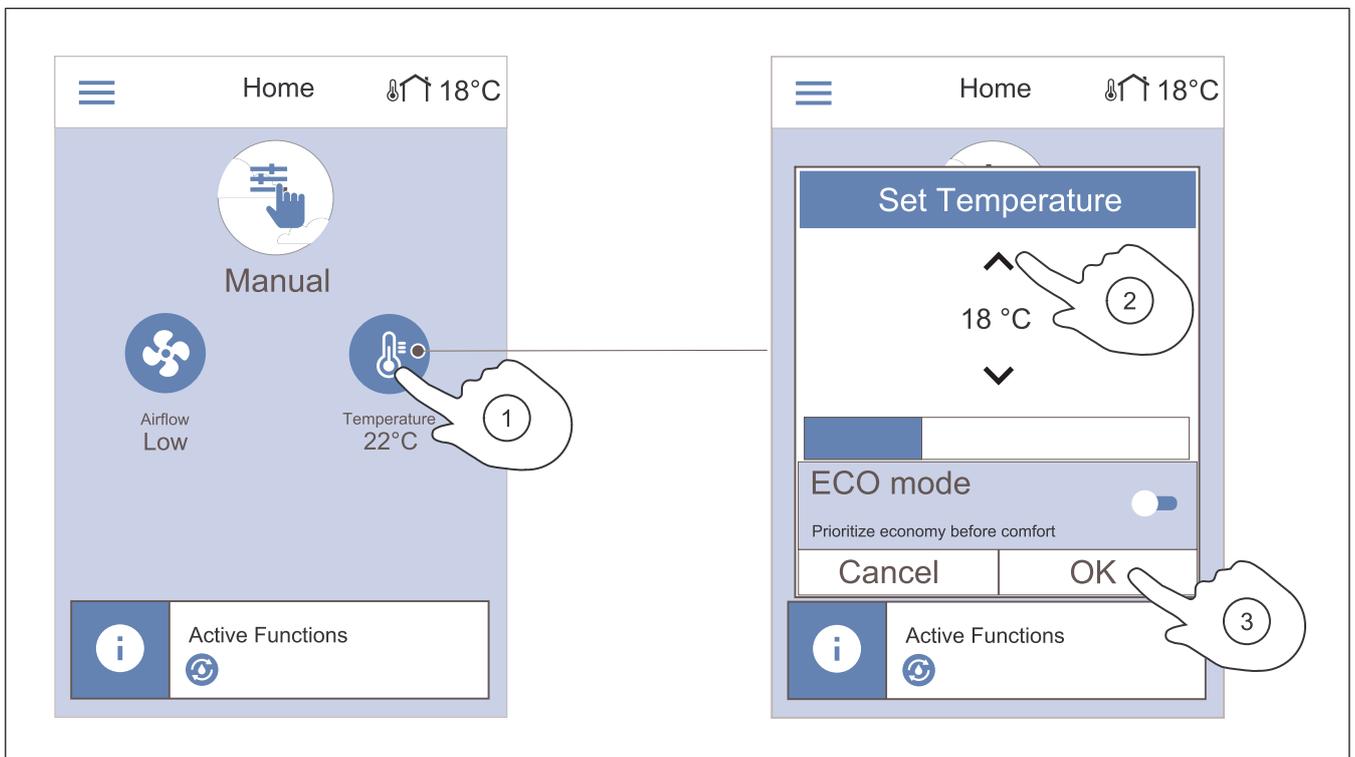
1. Touch the thermometer symbol on the home screen.

2. Touch the up or down arrows to increase or decrease the temperature.

3. Touch the **OK** button to confirm selection.

7.2.4 To change the user mode

The circle at the top of home screen shows the current user mode.

1. Touch the symbol at the top of home screen to change the mode.
2. Touch the symbol of the user mode you want to start.
3. Touch the up and down arrows to increase or decrease the duration if the selected mode has a timer. The

product returns to the previous mode when the set time expires.

4. Touch the **OK** button to confirm the selection.
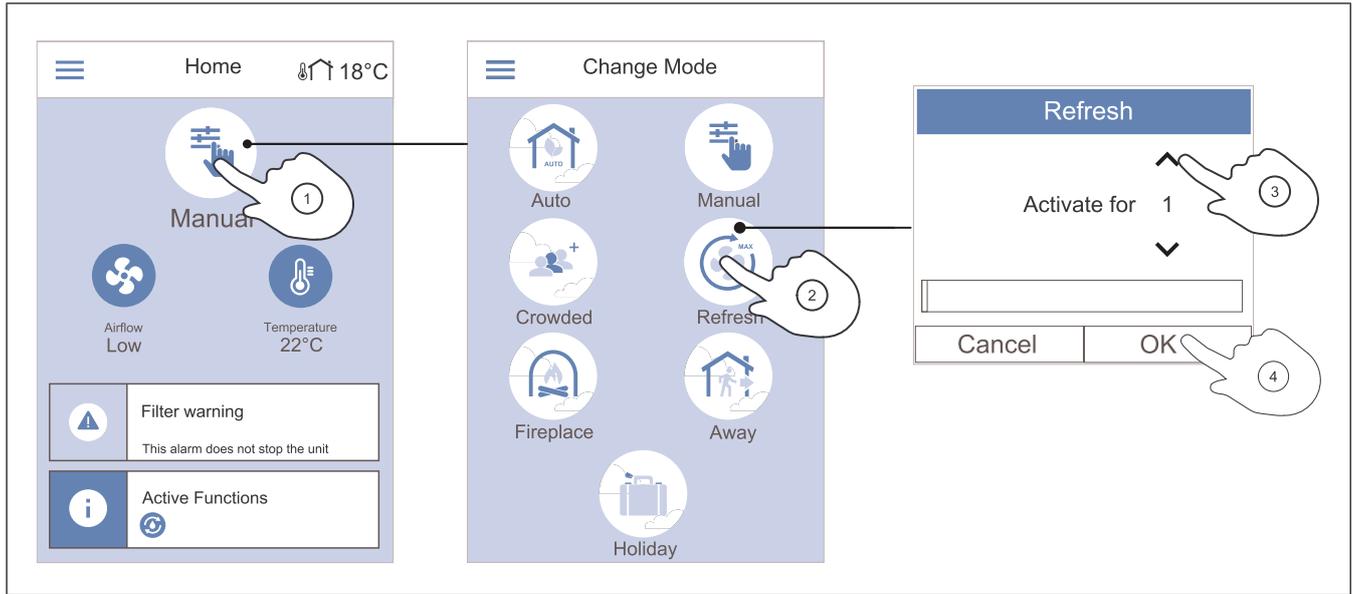
7.2.5 Overview of permanent user modes

Permanent mode is always on unless interrupted by temporary mode, user function or alarm.

Icon	Mode	Description
	Auto	The product automatically adjusts the airflow according to the weekly schedule, demand or external fan control signal. **Auto** mode is available for selection when **Week Schedule**, **Demand Control** or the external fan control functions are configured, otherwise **Auto** mode icon is not visible for selection.
	Manual	The airflow levels can be selected manually. The product can be set run at one out of four available airflow speeds: • **Off** • **Low** • **Normal** • **High**

7.2.6 Overview of temporary user modes

Temporary mode is on only for a set period of time, unless interrupted by a user mode, user function or alarm.

Icon	Mode	Description
	Holiday	Airflow is decreased to **Low** level when home is left for a long period of time. The duration is set in days. **ECO mode** function is ON.
	Crowded	Airflow is increased to **High** level and temperature reduced by 3 °C when home is more crowded than usual. The duration is set in hours.
	Away	Airflow is decreased to **Low** level when the home is left for a short period of time. The duration is set in hours. **ECO mode** function is ON.
	Refresh	Airflow is increased to **Maximum** level to replace indoor air with a fresh air in a short period of time. The duration is set in minutes.
	Fireplace	Supply air is increased to **High** level and extract air is reduced to **Low** level for better smoke extraction through the chimney. The duration is set in minutes.

All user modes can be modified in **Service** menu.

7.2.7 To set week schedule
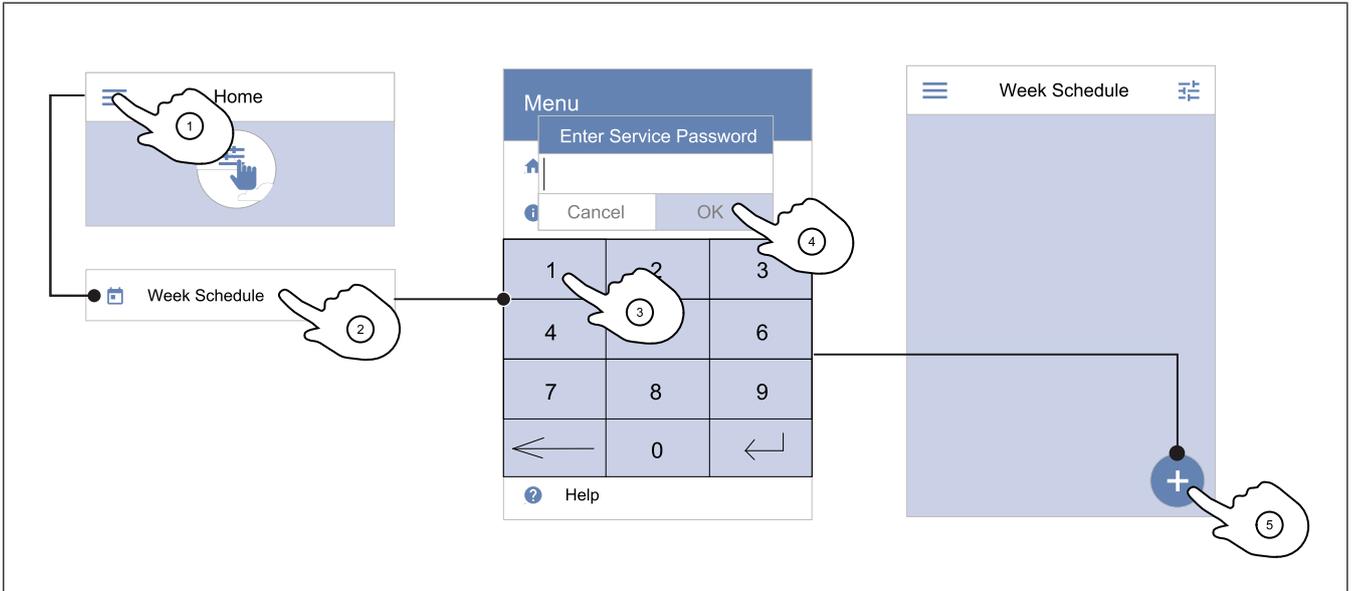
1. Touch the menu icon on the home screen.
2. Select menu **Week Schedule**.
3. The menu is locked by default. Enter a password.

Note:

Default password is 1111.

4. Touch the **OK** button to confirm.
5. Touch the icon at the bottom right corner of the screen to add a new schedule. Touch **Edit** button to modify already added schedule.
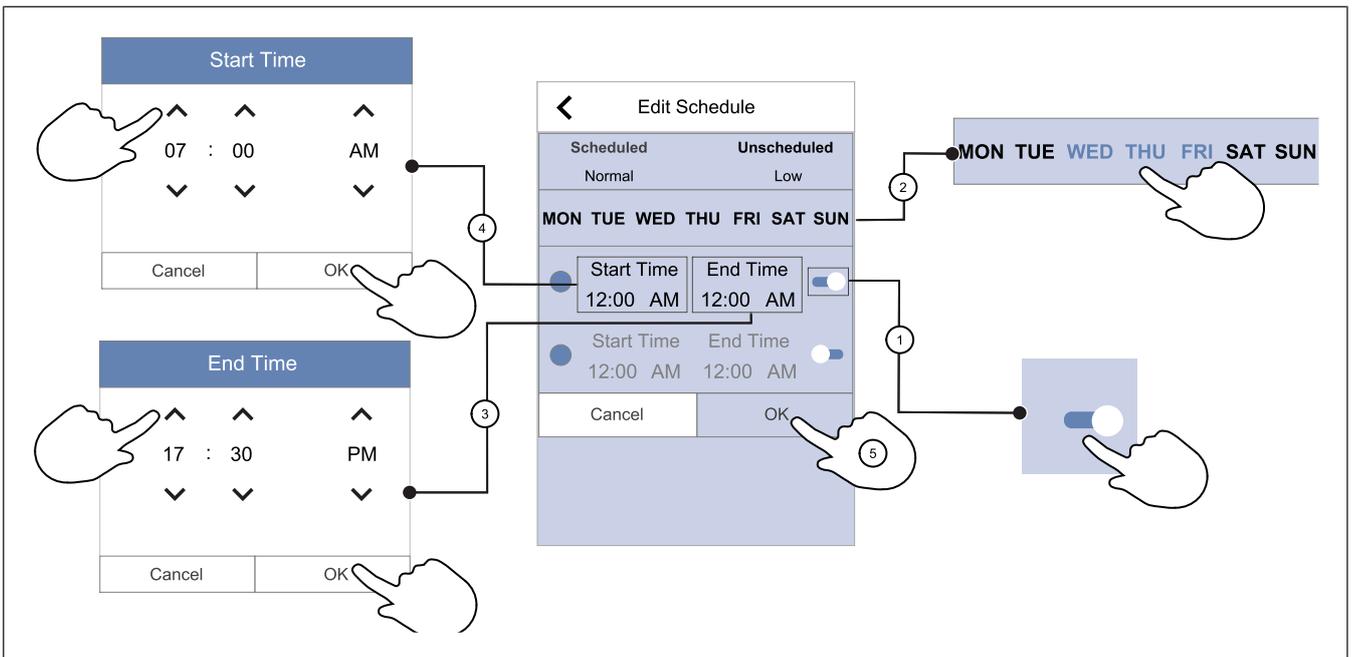
1. Touch the slider to turn ON the scheduled period.
2. Touch the day(s) when the scheduled period should be active.

Note:

Days that have already been scheduled cannot not be selected for new schedules.

3. Touch **Start Time** to set time when selected period should begin. Use arrow buttons ∧ and ∨ to increase or decrease hours, minutes and change day period.

Touch the **OK** button to confirm.
4. Touch **End Time** to set time when selected period should end. Use arrow buttons ∧ and ∨ to increase or decrease hours, minutes and change day period.

Touch the **OK** button to confirm.
5. If necessary, activate second scheduled period and set up time.

Touch the **OK** button to finish the week schedule setup.

Note:

Scheduled time can start but never end at midnight (00:00). The latest **End Time** period is 23:59. Scheduled time cannot go to the next day.

12 or 24 hour time format can be changed in **System Preferences** menu.

Example of a scheduled week

Airflow should be low when no one is at home during work hours 8:00–17:00 from Monday to Wednesday. Everyone returns earlier on Fridays so airflow should be low from 08:00 to 15:00. Airflow should be normal in the evening, at night and on weekends.

1. Set scheduled period airflow to **Low**.

2. Add the new schedule.

3. Set the scheduled period from 8:00 to 17:00.

4. Set active days from Monday to Wednesday.

5. Add the second schedule.

6. Set the scheduled period from 8:00 to 15:00.

7. Set the active day to Friday.

8. Set the unscheduled airflow to **Normal**. Unscheduled periods are evenings, nights and weekends in this setup.

7.2.7.1   To change scheduled airflow
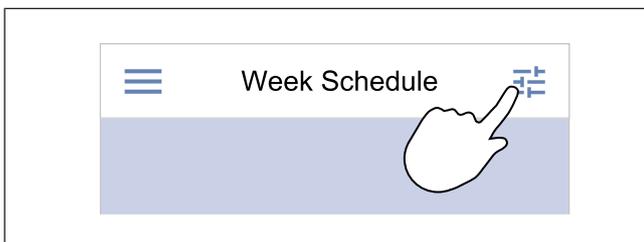
7.2.8   To operate alarms

The alarm bar shows alarms that are currently ON.
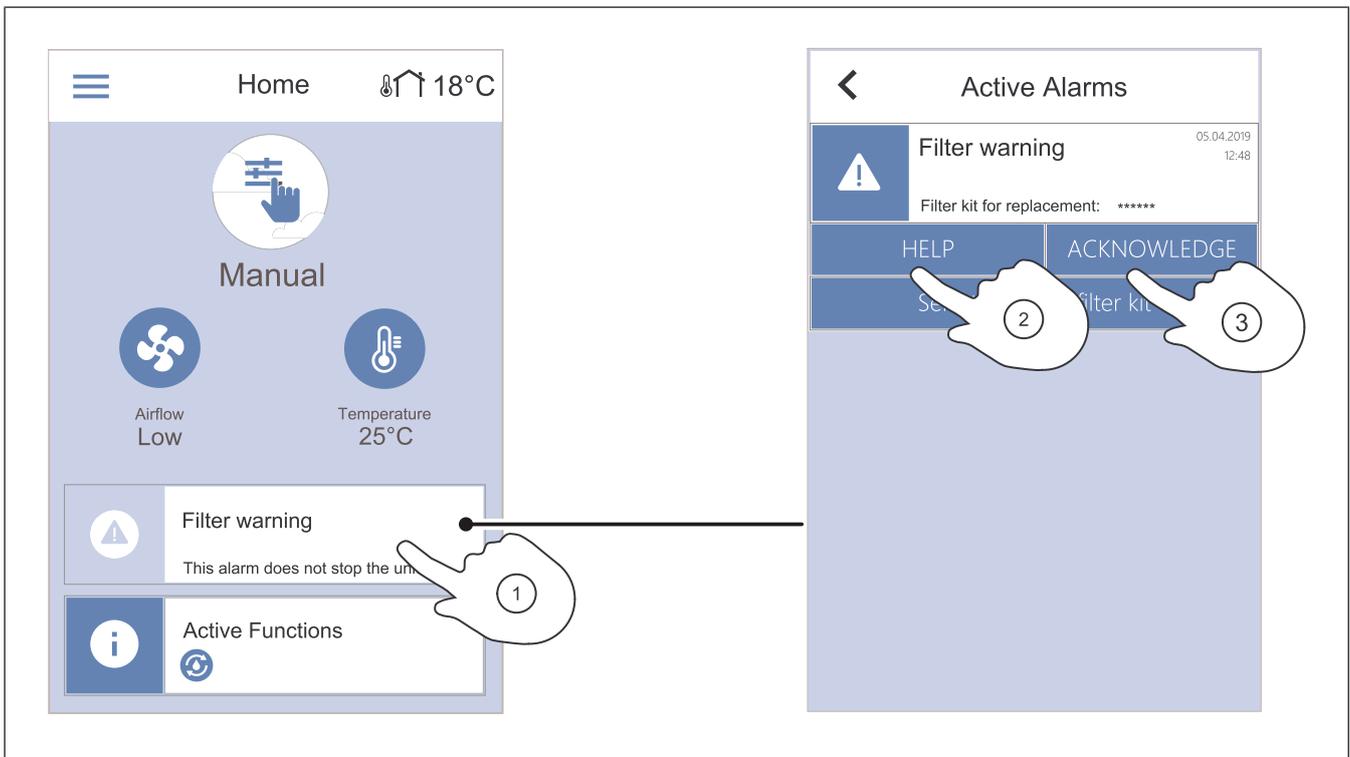
1. Touch the alarm bar on the home screen to see the list of alarms.
2. Touch **Help** button to know more about the alarm.
3. Touch **ACKNOWLEDGE** button to remove the alarm.

1. Touch settings icon to go to **Schedule Airflow Settings** menu.

2. Set airflow level for scheduled and unscheduled periods.

> **Note:**
>
> **Demand** level is available only if **Demand Control** or external fan control function is ON.

3. Set the temperature decrease for scheduled and unscheduled periods (-10 °C – 0 °C).

– If the cause is not corrected, the alarm comes back.

– If the problem continues contact your installation company or place of purchase.

	Caution
⚠	If the cause of the alarm is not corrected, there is a risk of damage to the product.

7.2.8.1   Overview of the alarms

Note:

If alarm continues, speak to Systemair technical support.

| Alarm	Explanation	Solution
A class alarms:		
Frost protection	Water temperature in the heating coil is too low. • Alarm stops the product and opens the water valve completely.	Make sure the water circulation pump is ON. Increase return water temperature to at least 13 °C.
Frost protection temperature sensor	Water heater temperature sensor is not working properly. • Alarm stops the product.	Make sure that frost protection temperature sensor connection is correctly done and cable is not damaged.
Defrosting error	Pre-heater has failed to heat the outdoor air because of very low outdoor temperature or pre-heater failure. • Alarm stops the product.	Press a red reset button to reset the thermostat. Make sure the pre-heater cable is not damaged. Mare sure that installed pre-heater meets heating power requirements if outdoor temperature is very cold.
Supply air fan rpm	Supply air fan malfunction. Rotation speed of the supply air fan is lower than minimum required. • Alarm stops the product.	Make sure that the cable connectors are connected.
Extract air fan rpm	Extract air fan malfunction. Rotation speed of the extract air fan is lower than minimum required. • Alarm stops the product.	Make sure that the fan cable connectors are connected.
Supply air fan control error	The supply air pressure is bellow set limit. • Alarm stops the product.	Make sure that air tube for pressure sensor is correctly connected and cable is not damaged.
Extract air fan control error	The extract air pressure is bellow set limit. • Alarm stops the product.	Make sure that air tube for pressure sensor is correctly connected and cable is not damaged.
Fire	Fire alarm is ON. • Alarm stops the product.	Remove the cause of fire alarm, acknowledge the alarm and restart the product. **Note:** The fire alarm can only be started by a digital signal from a fire detection system or similar. The digital input must be configured as **Fire alarm** for the alarm to work.
Low supply air temperature	Supply air temperature is too low.	Make sure that the rotary heat exchanger is rotating. Make sure the heater is working correctly.
B class alarms:		

Alarm	Explanation	Solution
Emergency thermostat	Overheating protection was energized.	If the manual overheating protection was energized, press a red reset button on the heater to reset the thermostat. If the automatic overheating protection is ON, wait for the temperature to drop.
Bypass damper feedback	Bypass damper malfunction.	• Disconnect the power supply for 10 seconds to reset the control function. • Wait until the bypass damper functionality test is complete. If the alarm occurs again after approximately 3 minutes, speak to Systemair technical support.
Rotor motor feedback	Heat exchanger rotor-motor malfunction. No feedback signal from the rotor motor for 180 seconds.	Replace the rotor belt if it is broken. Make sure that the cable connectors are plugged firmly.
Rotor guard	Heat exchanger rotor has stopped. No rotation guard signal for 180 seconds.	Replace the rotor belt if it is broken. Make sure that the cable connectors are plugged firmly. Make sure that there is an air gap of 5-10 mm between the rotation sensor and the magnet. Adjust the gap if necessary.
Secondary air damper	Shows the secondary air damper malfunction.	Make sure that the secondary air damper is in correct position. Make sure that the cable connectors are plugged firmly.
Outdoor air temperature sensor	Shows outdoor air temperature sensor malfunction.	Make sure that the sensor is connected correctly and the cable is not damaged.
Heater Overheat	Shows overheat temperature sensor malfunction.	Make sure that the sensor is connected correctly and the cable is not damaged.
Supply air temperature sensor	Shows supply air temperature sensor malfunction.	Make sure that the sensor is connected correctly and the cable is not damaged.
Room air temperature sensor	Shows room air temperature sensor malfunction.	Make sure that the sensor is connected correctly and the cable is not damaged.
Extract air temperature sensor	Shows extract air temperature sensor malfunction.	Make sure that the sensor is connected correctly and the cable is not damaged.
Extra controller temperature sensor	Shows extra controller temperature sensor malfunction.	Make sure that the sensor is connected correctly and the cable is not damaged.
Built-in RH sensor	Shows internal relative humidity sensor malfunction.	Make sure that the sensor is connected correctly and the cable is not damaged.
Built-in extract air temperature sensor	Shows internal extract air temperature sensor malfunction.	Make sure that the sensor is connected correctly and the cable is not damaged.
Extra controller alarm	Shows error from external device.	Make sure that the sensor is connected correctly and the cable is not damaged. Make sure that the overheat protection is not energized.
C class alarms:		
Filter warning	Notification about the upcoming filter change.	Make sure to change filters within a month.
Filter	Time for filter change.	Change the filter. Details about filter retailers can be found in **Help** menu.

Alarm	Explanation	Solution
External stop	The product was stopped by an external signal from connected device or building management system (BMS).	Remove the cause of stop signal.
Manual Fan Stop	Fans are in the manual mode and airflow is set to **Off**.	Select a different airflow (**Low/Normal/ High**) or **Auto** mode in the control panel home screen.
Overheat Alarm	Temperature after the heater is too high because supply airflow is not sufficient.	Make sure that the intake grille is not blocked. Make sure that the outdoor air damper is open during operation.
External CO2 sensor	Shows the external CO_2 sensor malfunction.	Make sure that the sensor is connected correctly and the cable is not damaged. If the sensor is wireless, do a check of a RS485 gateway and sensor status in the control panel.
External RH sensor	Shows the external relative humidity sensor malfunction.	Make sure that the sensor is connected correctly and the cable is not damaged. If the sensor is wireless, do a check of a RS485 gateway and sensor status in the control panel.
Output in manual mode	One or more of analog outputs are in manual mode.	Do a check of Service->Output menu. Make sure that all configured outputs are set to Auto value.

A digital output configured as **Sum Alarm** sends a generic signal every time the alarm is on, except for alarms **External stop**, **Output in manual mode** and **Manual Fan Stop**. This signal does not specify the alarm type.

7.2.9   Overview of the Quick information screen

Quick information screen can be shown instead of a sleep mode screen.

1. Time
2. Outdoor temperature
3. Current User mode / Alarm
4. Fan speed
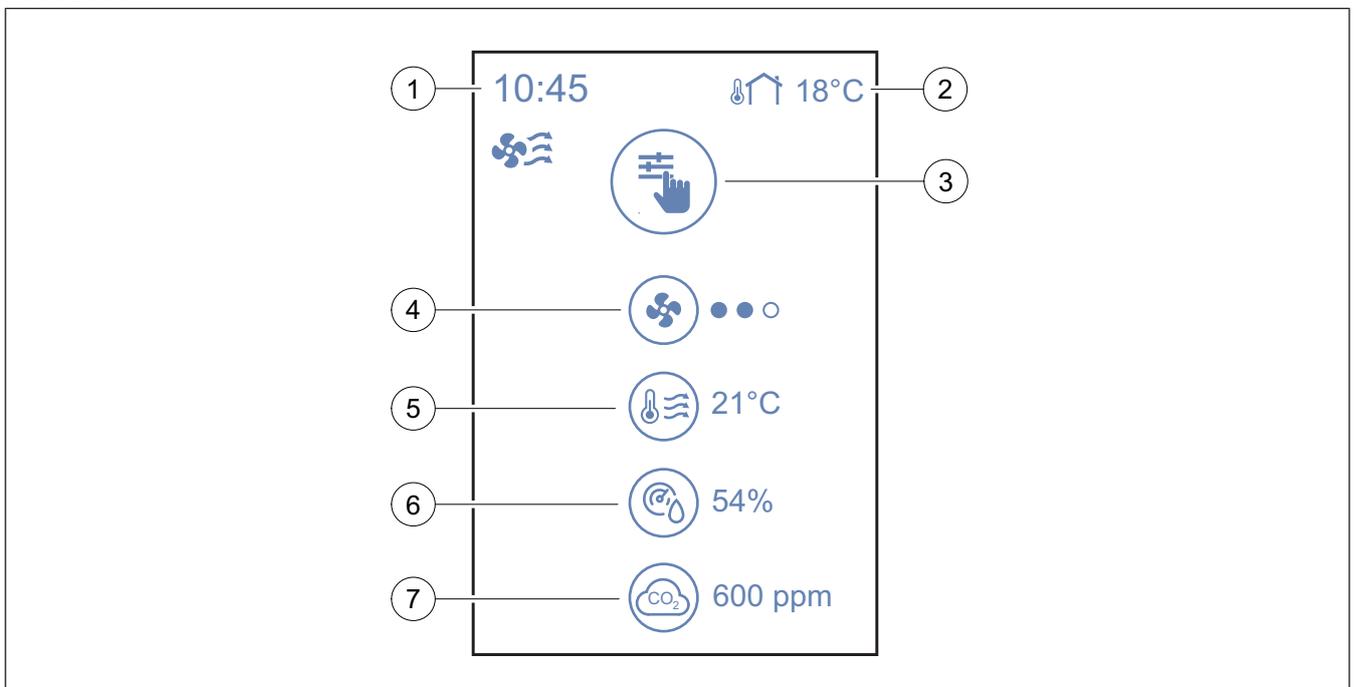
○○○ – off, ●○○ – Minimum/Low, ●●○ – Normal, ●●● – High/Maximum
5. Supply air temperature
6. Relative humidity (if configured)
7. CO_2 sensor value (if configured)

To configure the quick information screen go to **System Preferences → Display Settings → Quick Info screen**.

7.3 To operate the SAVE LIGHT control panel

SAVE LIGHT control panel lets you to change airflow levels and shows when any alarm is present.
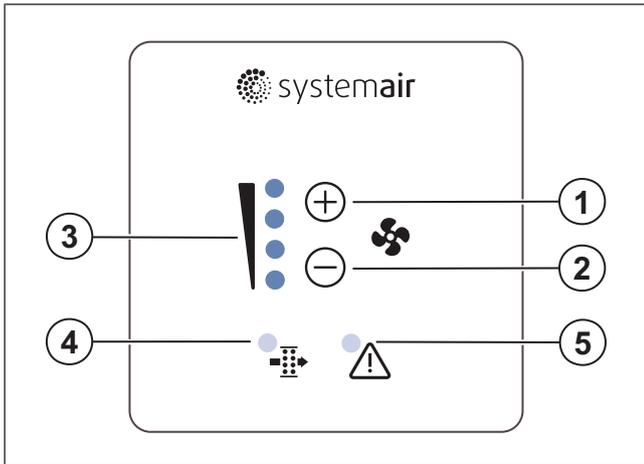
1. A button to increase airflow
2. A button to reduce airflow
3. Current airflow level/mode
4. Filter change alarm
5. General alarm

7.3.1 To change airflow

- Press $\oplus$ button to increase the airflow.
- Press $\ominus$ button to decrease the airflow.

	Off	Fans stopped. **Note:** Fans can be set to OFF when **Manual Fan Stop** function is turned ON in **Service** menu.
	Low	Fan speed – 25%
	Normal	Fan speed – 45%
	High	Fan speed – 70%

	Refresh	Maximum speed for 1 hour. The product goes back to previous mode after 1 hour.
	Auto — blink slowly	Automatic airflow control. Press $\oplus$ button for 3 seconds to turn ON. **Note:** Available only when **Week Schedule**, **Demand Control** functions are ON or **Fan Control** setting is set to **External** value.

Note:

Auto mode and Manual Fan Stop functions can be enabled in SAVE TOUCH control panel or with SAVE CONNECT mobile application.

⚠️ **Caution**

If the Manual Fan Stop function is used to stop the product fans, then air dampers must be installed in exhaust and outdoor air ducts to avoid cold draught and condensation.

7.3.2 To cancel sleep mode

Press any button to cancel the sleep mode. SAVE LIGHT control panel goes back to the sleep mode after 3 minutes of inactivity.

Control panel lights are OFF during sleep mode. The sleep mode is ON from 9:00 PM to 7:00 AM (product time).

7.3.3 To acknowledge alarms

SAVE LIGHT control panel cannot be used to acknowledge alarms.

Use the SAVE TOUCH control panel to acknowledge alarms (refer to 7.2.8 To operate alarms) or contact your local technical service provider.

7.3.4 To reset the filter change time

Push and hold $\oplus$ and $\ominus$ buttons for 3 seconds to turn OFF filter alarm and reset the filter change timer.

7.3.5 To change control panel address

If more than one SAVE LIGHT control panel is used, the address of other control panels must be changed.

1. Push and hold $\ominus$ button for 10 seconds to see a current control panel address value.

2. Press $\oplus$ button to increase and $\ominus$ button decrease the value.

Address value can be changed from 6 to 10, default value is 10.

Address value	Indication
6	Low airflow LED is on
7	Normal airflow LEDs are on
8	High airflow LEDs are on
9	Refresh mode LEDs are on
10	All LEDs are on

8 Maintenance

Warning

Make sure that the mains supply to the product is disconnected before performing any maintenance or electrical work.

- When you send an order for spare parts, include the serial number of the product. The serial number is found on the name plate.
- For more information about spare parts, contact technical support.
- Always use spare parts from Systemair.
- To find spare parts, refer to the scannable code on the name plate.

8.1 Maintenance schedule

The intervals are calculated from continuous operation of the product.

Maintenance task	Each 6 months	Each year	Each 3 years	When needed
Visually examine the product and its components for damage, corrosion and dirt.	X			
Clean the air chambers.	X			
Change filters.	X			
Clean fans.		X		
Clean the heat exchanger.			X	X
Change the rotor belt.				X
Clean all louvres and diffusers.				X
Clean the duct system.				X
Clean the outdoor air intake.				X

8.2 To remove the door
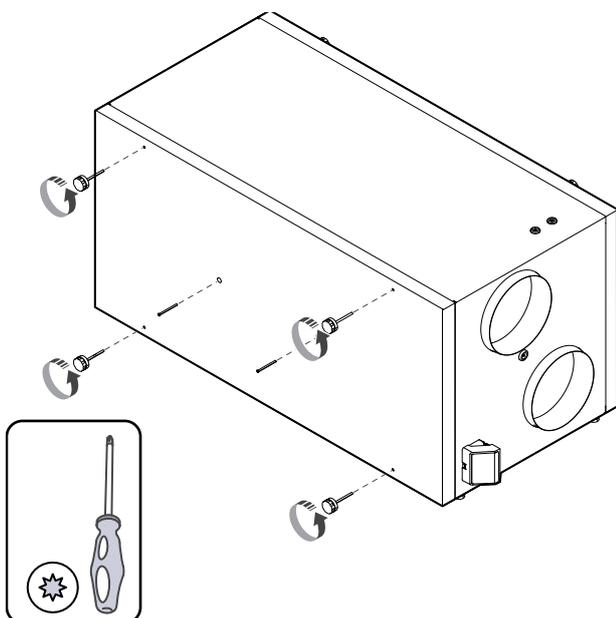
8.3 To clean the product

Warning

Use protective gloves during installation and maintenance. Sharp edges can cause injury.

Dust and dirt collects in the air chambers inside the product.

1. Disconnect the product from the power supply.
2. Remove the door.
3. Clean any dust or dirt. Use vacuum cleaner and moist cloth.
4. Let the product to dry.
5. Put the door on the product and connect the product to the power supply.

8.4 To change filters

Filters cannot be cleaned and must be changed 1–2 times per year to maintain the performance and energy efficiency of the product.

The control panel display shows a filter alarm when air filters need to be changed.
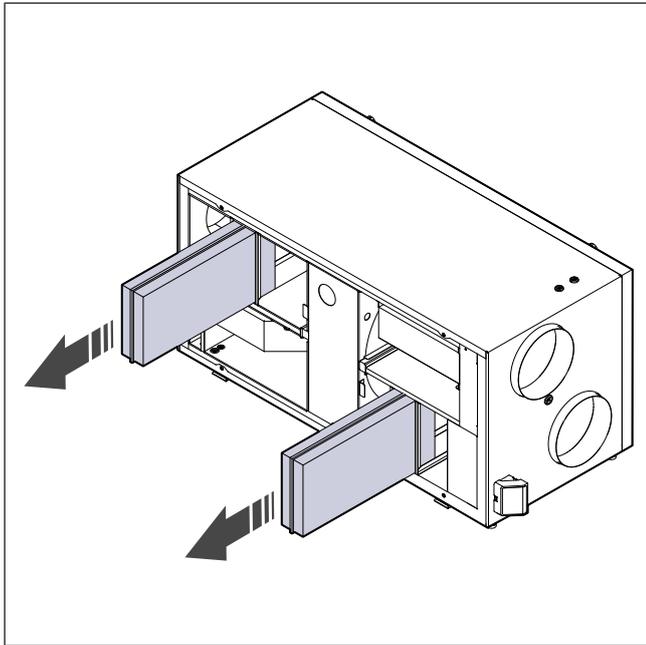
1. Disconnect the product from the power supply.

2. Remove the door (see 8.2 To remove the door).

3. Pull out the filters towards you. Some force may be needed.

4. Insert the new filters. Make sure that the correct filter types are used.

5. Put the door on the product and connect the product to the power supply.

6. Set the new filter change time.

8.4.1   To reset filter change timer
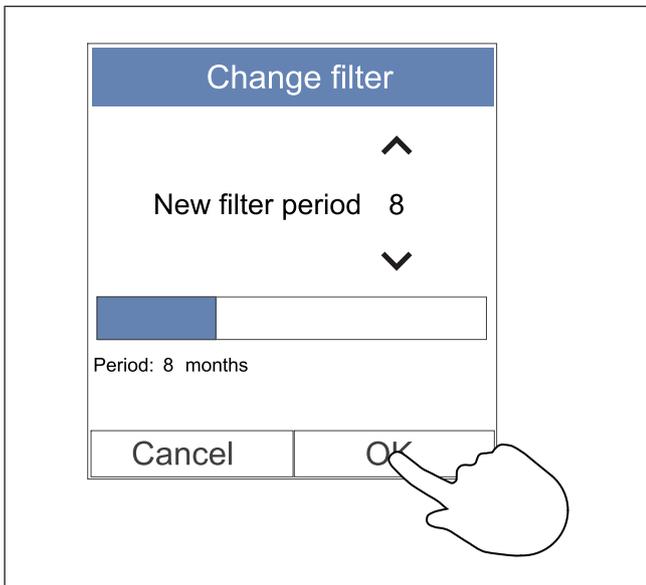
1. Go to menu **Filter** or touch the alarm bar on the home screen if the alarm is present.

2. Touch **Change filter** button.

3. Set duration until next filter change in the pop up window. Use arrow buttons ∧ and ∨ to increase or decrease the duration.

4. Touch the **OK** button to confirm selection.

Note:

The menu is locked by default. Enter a password (default password is 1111).

8.4.2   To select a different filter kit

Note:

Always use the original filter kits from Systemair.

Systemair recommends the standard filters for areas with normal air quality. If the air is heavily polluted with particulate matter, we recommend optional filter kits. Optional filter kits can be ordered from Systemair.

1. Touch **Select different filter kit** button in the alarm menu.

    Alternatively, go to **Filter** menu.

2. Select a filter kit from the list.

3. Touch the **OK** button to confirm selection.

8.5   To clean the heat exchanger

Warning

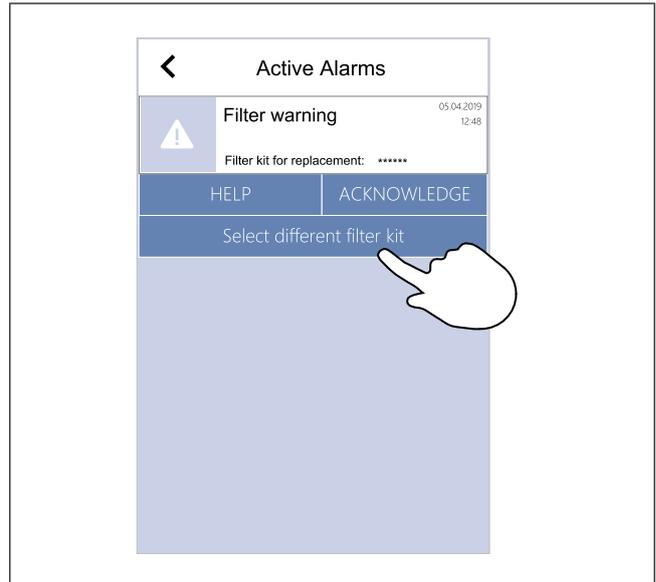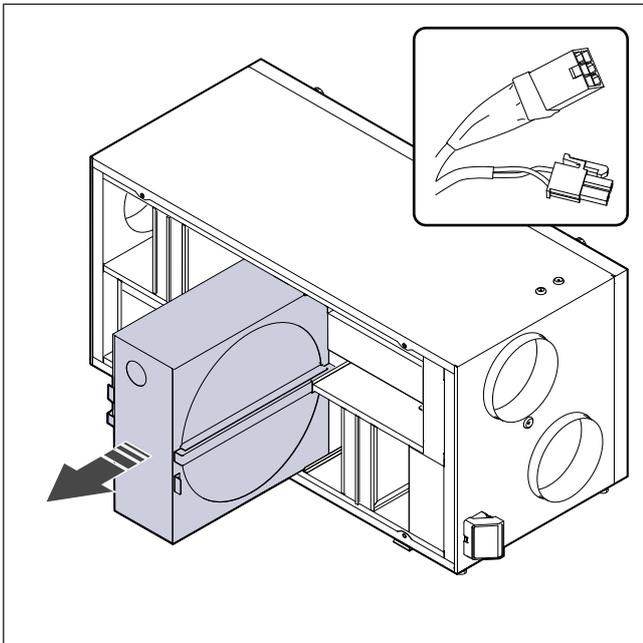Use protective gloves during installation and maintenance. Sharp edges can cause injury.

The heat exchanger must be removed and cleaned at regular intervals to maintain the energy efficiency (refer to 8.1 Maintenance schedule).

1. Disconnect the product from the power supply.

2. Remove the door (refer to 8.2 To remove the door).

3. Disconnect the heat exchanger motor power supply and the rotation sensor.

4. Pull out the heat exchanger towards you. Some force may be needed.

5. Carefully vacuum the heat exchanger.

> ⚠️ **Warning**
>
> Make sure the rotor does not get wet.

6. Install the heat exchanger.

7. Connect the heat exchanger motor power supply and the rotation sensor.

8. Put the door on the product and connect the product to the power supply.

8.6 To clean the fans

> ⚠️ **Caution**
>
> Make sure the rotating parts have come to a complete standstill before you do the maintenance.

> ⚠️ **Caution**
>
> Use protective gloves during installation and maintenance. Sharp edges can cause injury.

Fans need to be cleaned at regular intervals because fan blades can get dirty (refer to 8.1 Maintenance schedule).
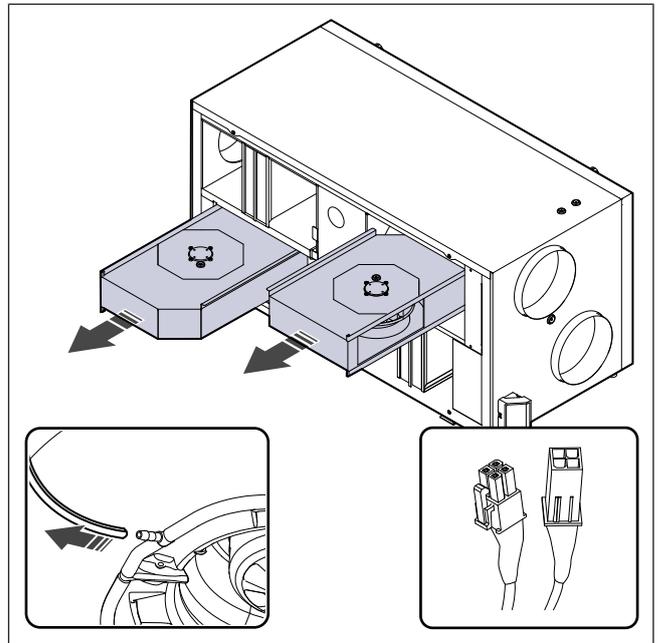
1. Disconnect the product from the power supply.

2. Remove the door (refer to 8.2 To remove the door).

3. Disconnect the fan cables. The cables can be found next to the fans.

4. Carefully disconnect the pressure measurement tubes.

5. Pull out the fans towards you. Some force may be needed.

6. Use cloth or a soft brush to clean the fans. White spirit can be used to remove obstinate settlements. Make sure the fans are dry before installation.

> ⚠️ **Caution**
>
> Do not use water.

7. Install the fans.

8. Reconnect the pressure measurement tubes.

9. Connect the fan cables.

10. Put the door on the product and connect the product to the power supply.

8.7   To reset the manual overheat protection
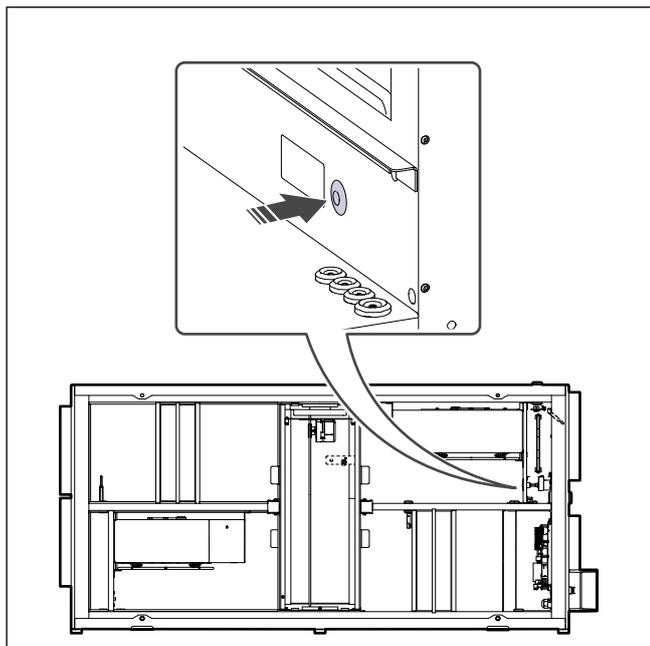
Push the red button on the electrical heater.

9   Troubleshooting

Note:

If you cannot find a solution to your problem, speak to Systemair technical support.

| Problem	Cause	Solution
There is no air output.	Alarm is on.	Check the control panel if any alarms are on and resolve them if possible.
	Power supply or control cables of the fan are disconnected.	Make sure the fan cables are connected.
	Incorrect control settings.	Make sure fans are not set to **Off**
The air output is low.	The filters are dirty.	Change the filters.
	There is blockage in the air inlet or the duct system.	Remove the blockage.
	There is dirt in the heat exchanger.	Clean the heat exchanger carefully.
	Defrosting function is active.	Check if defrosting function icon is visible on the control panel screen. Wait until defrosting cycle is finished.
	Outdoor airflow compensation function is enabled and outdoor air temperature is bellow 0 °C.	Disable outdoor airflow compensation function or wait until outdoor air gets warmer.
	Incorrect control settings.	Make sure the fan speed is not set too low.
	Incorrect week schedule configuration.	Make sure the week schedule has correct settings.
The product does not respond to control.	Software error.	Restart the product. Disconnect the power supply to the product for 10 seconds.
	Control panel is disconnected.	Make sure the control panel is properly connected to the product and the cable is not damaged.
The supply air temperature is low.	Alarm is on.	Check the control panel if any alarms are on and resolve them if possible.
	Defrosting function is on.	Check if defrosting function icon can be seen on the control panel screen. Wait until defrosting cycle is finished.
	Supply air temperature is set too low on the control panel.	Set the supply air temperature correctly.
	Power saving mode (**ECO mode**) is active.	Check if **ECO mode** is active. Disable if necessary.
	The overheat protection is on because the temperature of the electrical heater is too high.	Press the manual overheat button on the front plate of the electrical heater to set the overheat protection to off. Make sure that there is a sufficient airflow to keep temperature down.
There is unusual noise or vibration when the product starts or operates.	There is dirt on the fan impeller.	Clean the fan impeller carefully.
	Anti-vibration dampers are not installed.	Make sure that anti-vibration dampers are installed on the mounting bracket and at the back of the product.
	The product is not correctly installed.	Make sure that the product is correctly installed. Do a check of the duct system.

10   Disposal

The product follows the WEEE directive. This symbol on the product or the packaging of the product shows that this product is not domestic waste. The product must be recycled at an approved disposal location for electrical and electronic equipment.
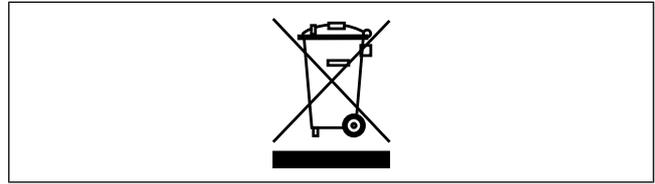
10.1   To disassemble and discard the parts of the product

1   Disconnect and disassemble the product in the opposite sequence of electrical connection and installation.

2   Recycle the product parts and the packaging at an applicable disposal location.

3   Obey the local and national requirements for disposal.
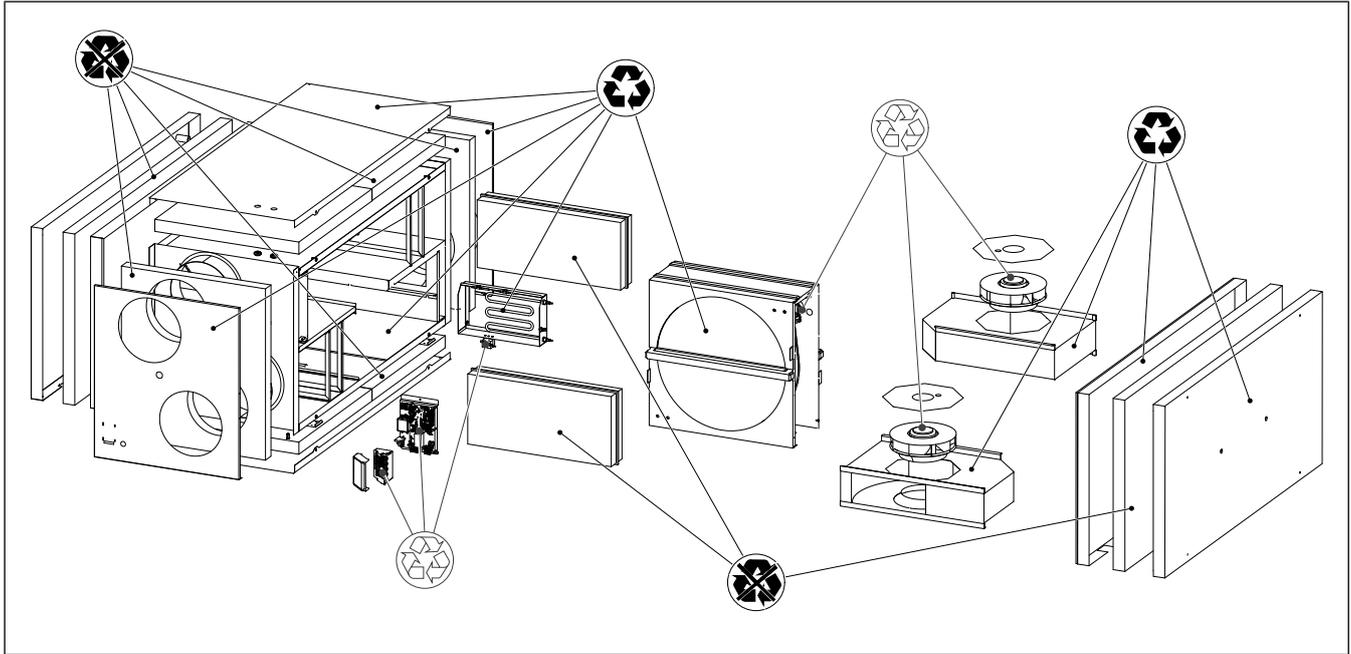
	Recy-clable		WEEE		Non–recy-clable

11   Warranty

For warranty claims, send a written maintenance plan and the commissioning report to Systemair. The warranty is only applicable for these conditions:

*   The product is correctly installed and operated.

*   The instructions in the product documentation are obeyed.

*   Maintenance instructions are obeyed.

*   Outdoor air dampers and exhaust air dampers with spring return must be closed if the product is not in operation.

*   No modifications has been done to the product without approval of Systemair.

12 Technical data

12.1 Technical data overview

Sound pressure, dB	Refer to the data sheet in the online catalogue at www.systemair.com.
IP class	
Voltage, current, frequency, power consumption, enclosure class, weight	Refer to the name plate. Refer to 1.5 Name plate for more information.
Filter quality of supply air filter	ePM1 60%
Filter quality of extract air filter	ePM10 50%

12.2 Product dimensions
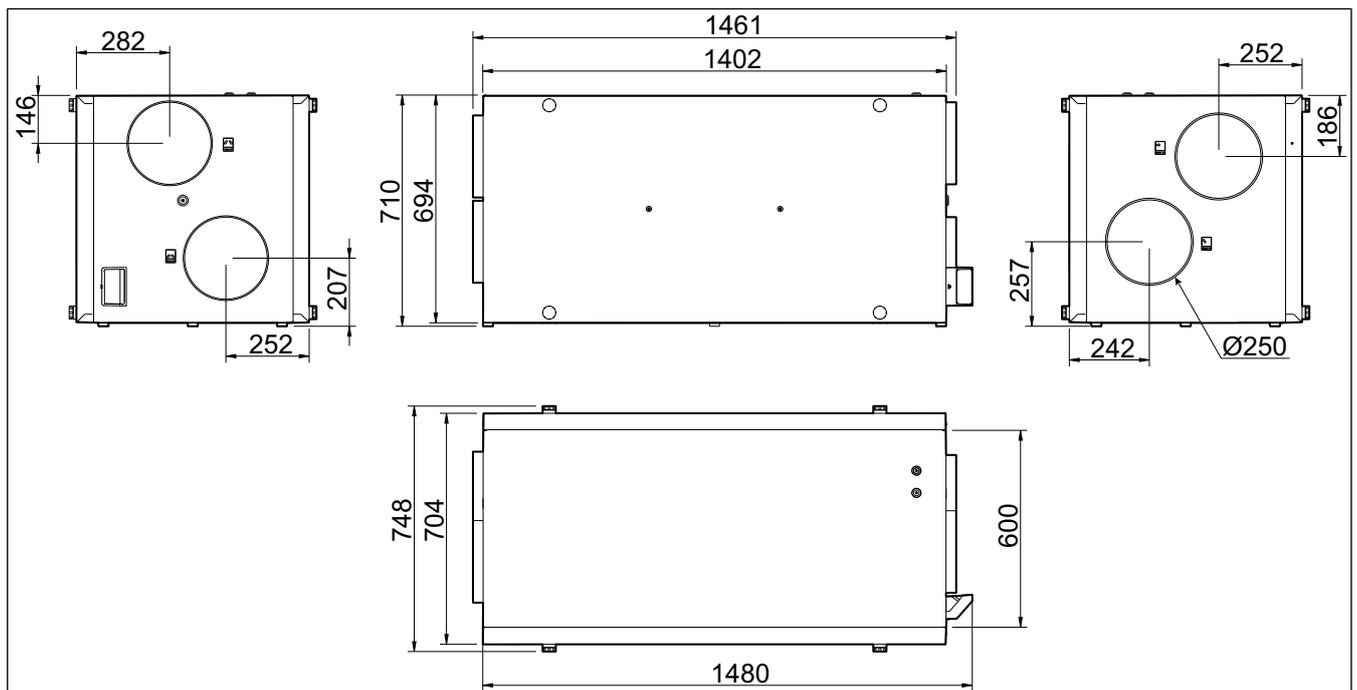
12.3 Wiring diagrams
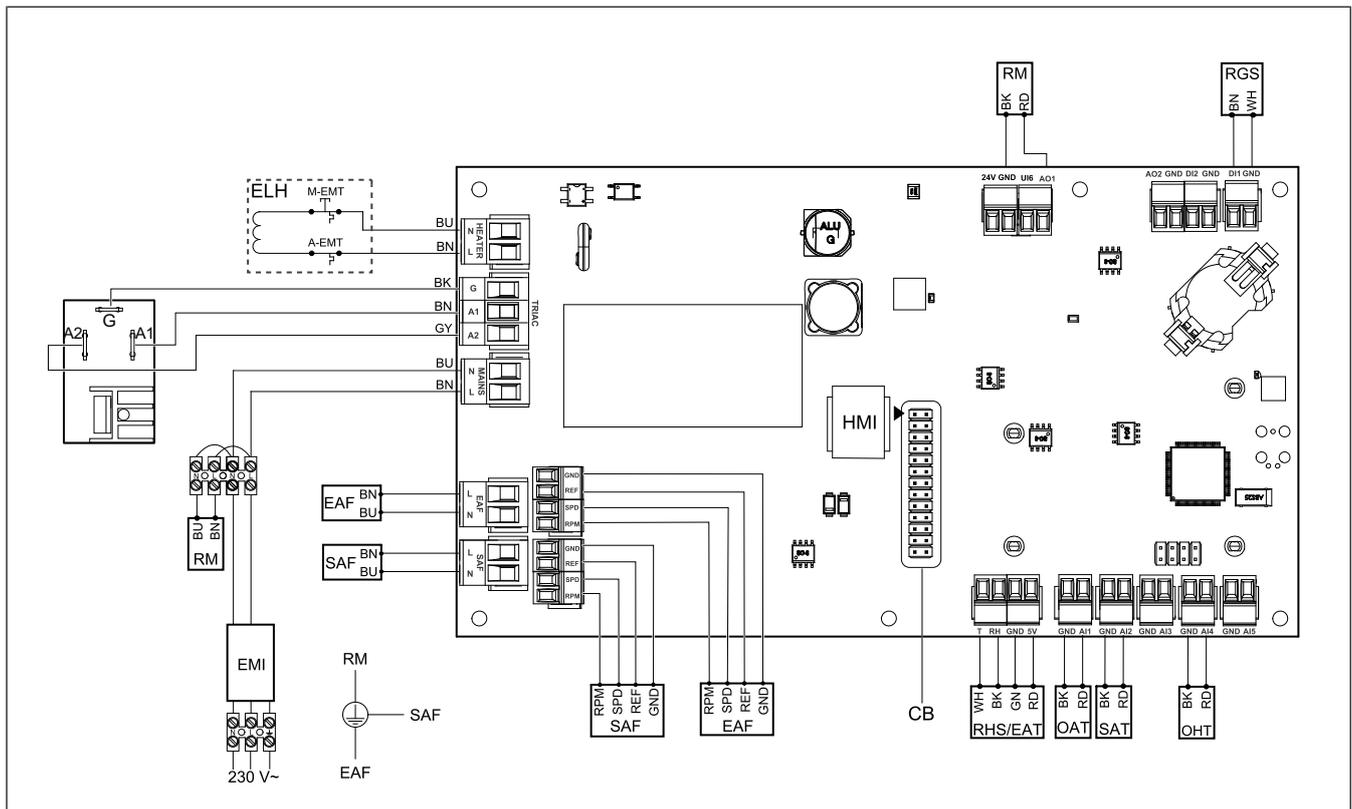
Symbol	Description
SAF	Supply air fan
EAF	Extract air fan
SAT	Supply air temperature sensor
OAT	Outdoor air temperature sensor
RHS/EAT	Relative humidity/Extract air temperature sensor
ELH	Electric heater
OHT	Overheat protection sensor
M-EMT	Emergency thermostat, manual reset 120 °C (normally closed contact)
A-EMT	Emergency thermostat, automatic reset 60 °C (normally closed contact)
RM	Rotor motor control
RGS	Rotor rotation check sensor
CB	Connection board plug
EMI	Electromagnetic interference filter for 230 V AC
A	Power supply
BN	Brown
BK	Black
BU	Blue
RD	Red

Symbol	Description
YE	Yellow
GY	Gray
WH	White
GN	Green

13 EU Declaration of conformity

We, the manufacturer

Company	Systemair UAB
Address	Linų g. 101 LT–20174 Ukmergė LITHUANIA

declare under our sole responsibility that the product

Product designation	Residential ventilation unit
Type/Model	SAVE VSR 700

fulfils the relevant provisions of following directives and standards

Machinery directive 2006/42/EC	**EN ISO 12100:2013** Safety of machinery - General principles for design Risk assessment and risk reduction **EN 60204-1:2019-06** Safety of machinery - Electrical equipment of machines - Part 1: General requirements **EN 13857:2019** Safety of machinery – Safety distances to prevent hazard zones being reached by upper or lower limbs.
Low Voltage Directive 2014/35/EU	**EN 60335-1:2012** Household and similar electrical appliances – Safety Part 1: General requirements. **EN 60335-2-40** Safety of household and similar electrical appliances - Part 2-40: Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers. **EN 50106** Safety of household and similar appliances – Particular rules for routine tests referring to appliances under the scope of EN 60 335-1. **EN 60529** Degrees of protection provided by enclosures (IP Code). **EN 62233** Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure.

Directive electromagnetic compatibility (EMC) 2014/30/EU	**DIN EN IEC 61000-6-2:2019** Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments. **DIN EN IEC 61000-6-3:2020** Electromagnetic compatibility (EMC) – Part 6-3: Generic standards – Emission standards for residential, commercial and light-industrial environments.
RoHS directive 2011/65/EU, 2015/863/EU	**IEC 63000:2018** Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances
Ecodesign Directive 2009/125/EC	**2009/125/EC** 327/2011 Requirements for fans above 125 W 1253/2014 Requirements for ventilation units 1254/2014 Energy labelling of residential ventilation units **EN 13142** Ventilation for buildings. Components/products for residential ventilation. Required and optional performance characteristics

Person authorized to compile the technical file:

Nerijus Lapackas
Technical Manager

This declaration relates exclusively to the machinery in the state in which it was placed on the market and excludes components which are added and/or operations carried out subsequently by the final user.

Ukmergė, Lithuania 2023-10-04

Mindaugas Martišius
Managing Director

14 UK Declaration of confirmity

We, the manufacturer

Company	Systemair UAB
Address	Linų g. 101 LT–20174 Ukmergė LITHUANIA

declare under our sole responsibility that the product

Product designation	Residential ventilation unit
Type/Model	SAVE VSR 700

fulfils the relevant provisions of following directives and standards

Supply of Machinery (Safety) Regulations 2008	**EN ISO 12100:2013** Safety of machinery - General principles for design Risk assessment and risk reduction **EN 60204-1:2019-06** Safety of machinery - Electrical equipment of machines - Part 1: General requirements **EN 13857:2019** Safety of machinery – Safety distances to prevent hazard zones being reached by upper or lower limbs.
Electrical Equipment (Safety) Regulations 2016	**EN 60335-1:2012** Household and similar electrical appliances – Safety Part 1: General requirements. **EN 60335-2-40** Safety of household and similar electrical appliances - Part 2-40: Particular requirements for electrical heat pumps, air-conditioners and dehumidifiers. **EN 50106** Safety of household and similar appliances – Particular rules for routine tests referring to appliances under the scope of EN 60 335-1. **EN 60529** Degrees of protection provided by enclosures (IP Code). **EN 62233** Measurement methods for electromagnetic fields of household appliances and similar apparatus with regard to human exposure.
Electromagnetic Compatibility Regulations 2016	**DIN EN IEC 61000-6-2:2019** Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity for industrial environments. **DIN EN IEC 61000-6-3:2020** Electromagnetic compatibility (EMC) – Part 6-3: Generic standards – Emission standards for residential, commercial and light-industrial environments.
The Restriction of the Use of Certain Hazardous Substances in Electrical and Electronic Equipment Regulations 2012	**IEC 63000:2018** Technical documentation for the assessment of electrical and electronic products with respect to the restriction of hazardous substances
The Ecodesign for Energy-Related Products and Energy Information (Amendment) (EU Exit) Regulations 2019	**2009/125/EC** 327/2011 Requirements for fans above 125 W 1253/2014 Requirements for ventilation units 1254/2014 Energy labelling of residential ventilation units **EN 13142** Ventilation for buildings. Components/products for residential ventilation. Required and optional performance characteristics

Person authorized to compile the technical file:

Nerijus Lapackas
Technical Manager

This declaration relates exclusively to the machinery in the state in which it was placed on the market and excludes components which are added and/or operations carried out subsequently by the final user.

Ukmergė, Lithuania 2023-10-04

Mindaugas Martišius
Managing Director

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