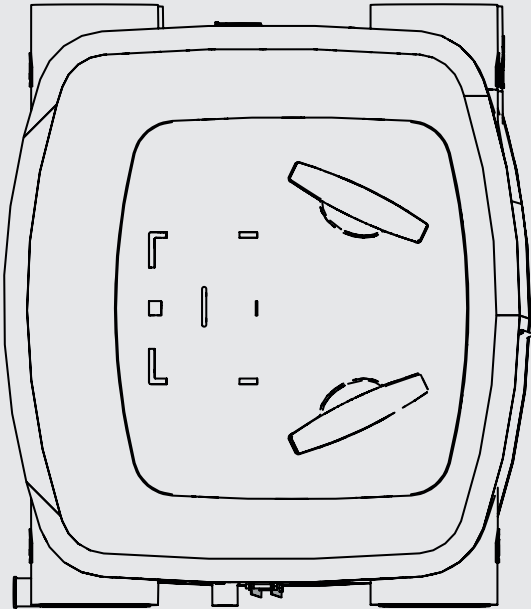


# HEATRAE SEDIA

SMARTER | CLEANER | WARMER

## HRU ECO 4

User manual





# Introduction

This manual is intended for the user of the device and contains important information about safe and correct use, maintenance and troubleshooting of the appliance.

The installer is responsible for installing and commissioning the unit.

The following definitions are used in this manual to draw attention to hazards, instructions or indications related to people, products, installations and/or the surroundings.

## **Warning!**

Indicates a hazard that can cause injury and/or severe damage to the product, system or surrounding area.

## **Caution!**

Instructions important for the installation, functioning, operation or maintenance of the product. Failure to observe these instructions can result in minor injury and/or severe damage to the product, system or surrounding area.

## **Note**

Instructions important for the installation, functioning, operation or maintenance of the product. Failure to observe these instructions can result in minor damage to the product, system or surrounding area.

## **Tip**

Instructions that may be important for the installation, functioning, operation or maintenance of the product, but are not related to injury or material damage.

## **Tip**

Do not forget to register the product via the Heatrae Sadia website [www.heatraesadia.com](http://www.heatraesadia.com).

Although this manual has been drawn up with the utmost care, no rights may be derived from this document.

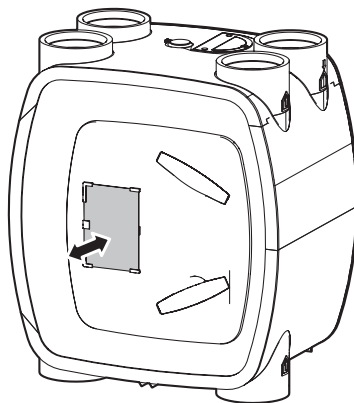
Heatrae Sadia reserves the right to modify products and manuals without prior notice.

Due to our continuous product improvement process, this document may not match the appliance you

received. You can download the latest version of the manual from [www.heatraesadia.com](http://www.heatraesadia.com).

## **Tip**

Please keep the manual in its designated storage slot on the ventilation unit.



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# 1. Safety and other regulations

## 1.1. Safety

- Work may only be performed on the ventilation system by qualified installers in accordance with the regulations mentioned in this manual. Only original accessories and parts as specified by the manufacturer may be used for this purpose.
- Do not use the product for purposes other than those for which it is intended, as described in this manual.
- Be careful when using electrical appliances:
  - Never touch the appliance with wet hands.
  - Never touch the appliance when barefoot.
- This product and/or system may be operated safely by children aged 8 years and older and by people with physical, sensory or mental disabilities or a lack of experience/knowledge if under supervision or after having received instructions regarding safe use, and if they are aware of the product and/or system hazards.
- Cleaning and maintenance by the user may not be done by children or people with physical, sensory or mental disabilities or a lack of experience/knowledge without supervision.
- Do not allow children to play with the product and/or system.
- Do not use the product in the vicinity of flammable or volatile substances such as alcohol, insecticides, petrol etc.
- The safety instructions must be followed in order to prevent physical injury and/or damage to the product.
- The product includes moving parts. Please therefore wait at least 10 seconds after disconnection prior to opening or touching the product as these parts will continue to move for some time.
- Secure the appliance against being switched on accidentally.

- Maintenance instructions must be followed to prevent damage and excessive wear and tear.
- The product may not be modified.
- The product is only suitable for use with a 230 V, 50 Hz AC power supply system.
- Ensure that the electrical system to which the product is connected meets the necessary conditions.
- Do not expose the product to the elements.
- Do not place any objects on top of the device.
- Inspect the product regularly for faults. In the event of faults, switch the product off and contact your installer or Heatrae Sadia Customer Service immediately.
- Switch the product off if:
  - The product is not working properly.
  - You want to clean the outside of the product.
- Ensure that the electrical circuit does not become damaged.
- Do not use the device to extract air from boilers, heating systems etc.
- Ensure that the device drains into a sewer system which leads outside, and is suitable and installed for this purpose.
- Ensure that air valves and grilles are not obstructed, and that they are clean.

# 2. Product information

## 2.1. A comfortable living environment and energy conservation

A comfortable living environment and energy conservation are becoming increasingly important in housing construction. The insulation of modern dwellings is getting better all the time, but unfortunately good insulation often comes at the expense of the indoor climate. Without good ventilation, there is nothing to stop damp, mould and dust mites, and the air in the dwelling can quickly start to feel stale due to the increasing CO<sub>2</sub> concentration (carbon dioxide). Heatrae Sadia installs appliances which manage the indoor climate and take account of requirements for comfort and energy consumption in dwellings.

The **HRU ECO 4 ventilation system from Heatrae Sadia** is an example of these advanced appliances.

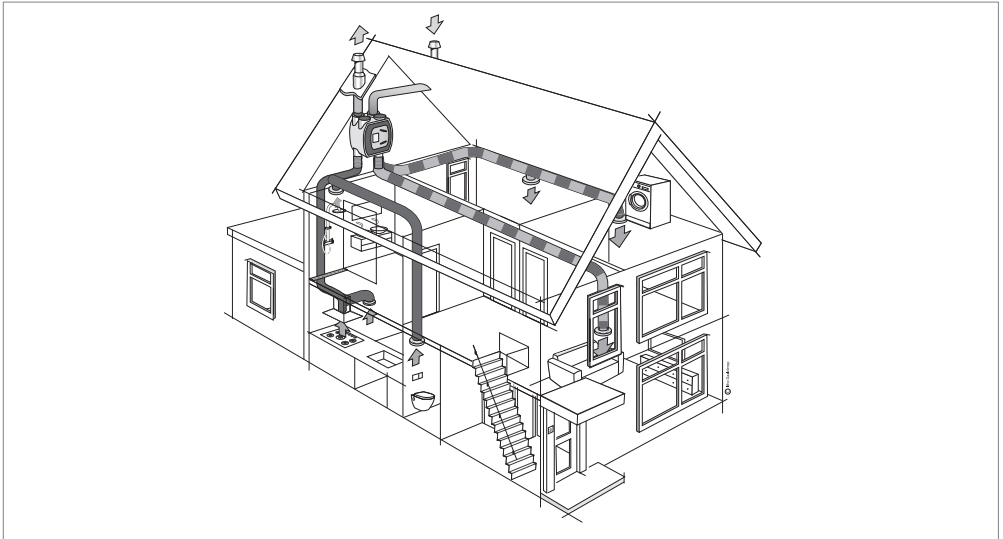
The HRU ECO 4 is a balanced ventilation system with heat recovery. The ventilation unit is equipped with two fans: one for air exhaust and one for air supply.

The unit ventilates several rooms in the dwelling. Stale or humid air is extracted from the kitchen, bathroom, toilet, and any indoor storage spaces or washrooms ("wet rooms") through ducts connected to the ventilation unit.

The living room, bedrooms and hallway are also connected to the ventilation unit by ductwork, but in these rooms there is no air extraction, just fresh air supply.

To ensure good air distribution, the extraction and supply points in the ventilated rooms are fitted with extractor valves and supply grilles.

The HRU ECO 4 helps to reduce humidity in your bathroom, keep the toilet smelling fresh and remove cooking odours from the kitchen.



## 2.2. Heat recovery

Before the stale air is discharged outside, it is filtered and passes through the heat exchanger. The fresh outside air is also filtered and passes through the heat exchanger before entering the dwelling. In the heat exchanger, the two air streams pass alongside each other but are not mixed together. This allows heat from the exhaust air to be transferred to the fresh supply air, so this energy is not lost.

This heat recovery process is very efficient. On average, around 90% of the extracted heat is returned to the dwelling. This means that only around 10% of the heat is lost.

### Note

Despite the heat exchange process whereby Supply air from outside is pre-heated, the balanced ventilation system may not be regarded as a heating system. It is a ventilation system that contributes to a comfortable and healthy living environment in a dwelling.

## 2.3. Filters

The HRU ECO 4 has two filters, one for each air stream. Both filters are positioned in the ventilation unit so that they protect the exchanger against soiling. In addition, the filter in the air supply channel protects the user against dust and other impurities found in the air drawn in from outside.

There are various types of filters:

- **G3 filter.**  
This filter is supplied with the appliance as standard and it is very suitable as a 'construction dust filter' in the initial period following completion of the new housing. After around three months, the filter should be replaced with a G4 or F7 filter.
- **G4 filter.**  
This coarse filter is mainly used to filter relatively large dust particles from the air. This protects the heat exchanger in particular against incoming dirt.
- **F7 filter.**  
This fine filter stops fine dust particles as well as coarser dust particles (fine dust, pollen). This is particularly beneficial for people with allergies who are sensitive to this.

During the product's lifetime the filters will become dirty, which reduces the capacity of the ventilation unit. It is therefore essential that the filters are cleaned as indicated and ultimately replaced.

### Warning!

HRU ECO 4 should always be fitted with the appropriate filters. Without filters, the appliance can be irreparably damaged.

## 2.4. Controls

The HRU ECO 4 is normally equipped with a three-level control which allows the flow rates at low speed and high speed to be adjusted as desired with potentiometers on the unit. In addition, the ventilation unit has some automatic controls that operate continuously in the background.

### 2.4.1. Summer bypass control

The aim of the summer bypass control is the ventilation of the dwelling with less heat transfer or none whatsoever.

The Heatrae Sadia HRU ECO 4 heat recovery unit is supplied as standard with a bypass valve which is fully integrated into the unit. This valve operates fully automatically. The bypass allows the outdoor air intake to go around the heat exchanger. The exhaust air always passes through the heat exchanger.

This automatic control will primarily be activated at night in the summer. The outside air is usually cooler than the warm inside air at this time.

### Note

The summer bypass control is not a cooling device, but it does ensure that the dwelling remains cool for longer on summer nights.

### 2.4.2. Frost protection

The HRU ECO 4 is equipped with frost protection as standard. The frost protection consists of a unique frost valve integrated into the top of the unit, as well as other components. This valve operates fully automatically and prevents freezing inside the ventilation unit during winter weather.

The air extracted from the dwelling (exhaust air) transfers heat to the outside air sucked in by the unit. This cools the exhaust air in the heat exchanger. If the temperature of the exhaust air in the heat exchanger comes too close to the freezing point, the appliance will open the frost



valve at the top of the unit and suck in warm room air. This warm room air is mixed with the sucked-in cold outside air.

At the same time, the supply fan starts running faster so that the amount of fresh outside air remains the same. Thanks to this preheating of the cold outside air, the warm air extracted from the dwelling does not have to warm up the cold fresh air as much. As a result, the temperature of the exhaust air in the heat exchanger remains safely above the freezing point.

If the outside temperature drops even further, the supply fan will slow down until it ultimately reaches a minimum speed.

If the temperature drops even further, the exhaust fan speed will be increased and the supply fan will continue to run at minimum speed. If the outside temperature becomes extremely low, the supply fan will be switched off but the exhaust fan will continue running. The frost valve is also closed in this case.

After a defined time, the supply fan will start running again at minimum speed and the frost valve will be opened again to check whether the frost risk has gone away. If the outside temperature rises, the above actions occur in the reverse order until the frost risk is gone. The resident always determines the exhaust air volume.

### 2.4.3. Automatic ventilation based on CO<sub>2</sub> measurement

A wireless CO<sub>2</sub> sensor can be connected to the ventilation unit.

To ensure a healthy indoor climate and to prevent the air in the dwelling from becoming stale, it is important that the CO<sub>2</sub>-level is not too high.

The sensor can be placed in any room (except the bathroom), but should preferably be placed in the living room or bedroom.

The CO<sub>2</sub>-sensor measures the CO<sub>2</sub>-level in the room. It translates the measured value into a ventilation demand and communicates this via wireless to the ventilation unit with which it is paired. This allows ventilation to be continuously and automatically adjusted, and it ensures that a good indoor climate is achieved in the most effective and energy efficient manner.

When the CO<sub>2</sub>-level has fallen sufficiently, the capacity of the ventilation unit is automatically decreased.

#### Tip

It is possible to place several wireless sensors and controls in the dwelling, up to a maximum of 20.

### 2.4.4. Automatic ventilation based on RH measurement

A wireless RH sensor can be connected to the ventilation unit.

To ensure a healthy indoor climate and to prevent patches of damp and mould in the dwelling, it is important that the relative humidity does not stay high for too long.

The sensor can be placed in any room as desired, but preferably in a room where a lot of moisture is produced, such as a bathroom.

The RV-sensor measures the relative humidity in the room. The sensor translates the measured value into a ventilation demand and communicates this via wireless to the ventilation unit paired with the sensor. This allows ventilation to be continuously and automatically adjusted, and ensures that a good indoor climate is achieved in the most effective, energy-efficient manner.

When the relative humidity has fallen sufficiently, the capacity is automatically decreased.

### 2.4.5. Automatic ventilation based on occupancy

A wireless PIR sensor can be connected to the ventilation unit.

To ensure a healthy indoor climate and to prevent unpleasant odours in the dwelling, it is important that there is enough ventilation when people are present.

The sensor can be placed in any room, for example in the toilet or in a bathroom with a toilet.

The sensor detects the presence (or absence) of people in the room and communicates this wirelessly to the ventilation unit with which it is paired.

If the ventilation unit is in Auto mode, the capacity is continuously and automatically adjusted.

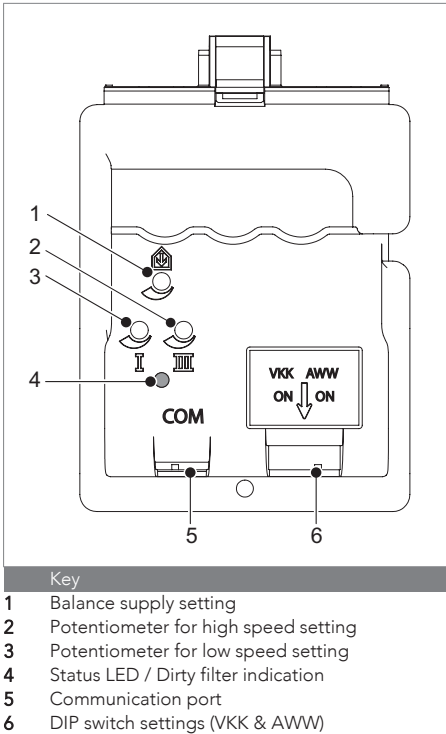
If the sensor detects movement, the ventilation system runs at increased capacity for a defined period. If the sensor detects continuous occupancy of the room, the capacity will be increased even more. If the motion sensor does not detect any movement within a set period, the capacity will automatically be decreased again.

#### Caution!

Control based on wireless sensors (CO<sub>2</sub>, RV and/or PIR) only works when the ventilation unit is in **Auto** or **Auto-Night** mode.

## 2.4.6. Filter warning

The controller of the ventilation unit uses a counter to keep track of when the filters need to be cleaned or replaced. If it detects that a filter is dirty, an LED (4) on the ventilation unit starts blinking orange.



### Note

It is advisable to check the LED on the ventilation unit on a regular basis.

### Caution!

If a dirty filter is detected, a signal is also sent to the resident by suddenly reversing the operation of the control: when the **Low Speed** button on the remote device is pressed, the ventilation unit starts running at **high speed**, and when the **High Speed** button is pressed the ventilation unit starts running at **low speed**. When this happens, check the LED on the ventilation unit. If it is blinking orange, the filter needs to be cleaned or replaced.

## 2.4.7. Status LED

The appliance is equipped with a status LED on the control panel. The status LED can display the following messages:

Pattern		Function
Green	Orange	
Blinks 1x/s	Blinks 1x/s	Identification
Blinks 1x/s		Pairing mode
Lit 6 s	Blinks 1x/s	Frost mode
Lit 5 s	Blinks 2x/s	Bypass mode
Lit		Normal operation
Pattern		Function
Red	Orange	
Blinks 1x/s	Blinks 1x/s	Exhaust fan fault
Blinks 1x/s	Blinks 2x/s	Supply fan fault
Blinks 2x/s	Blinks 2x/s	Exhaust temperature sensor fault
Blinks 2x/s	Blinks 3x/s	Supply temperature sensor fault
Blinks 3x/s	Blinks 1x/s	Sensor fault
	Blinks 1x/s	Filter dirty

## 2.5. Grilles

The quantity of air that must be extracted is legally regulated, and the quantity of air supplied must stand in proportion to this. This means that the same amount of air must be supplied as is extracted. The minimum air quantity per room is also legally regulated. The quantities have been selected to ensure that no unnecessary energy is wasted whilst still achieving an optimal indoor climate. This is why the air extraction and supply valves differ in size between rooms. Each of the extraction and supply grilles therefore has a specific fixed position and setting.

### Note

It is very important that you do not adjust the grilles in any way, to ensure proper operation of the entire ventilation system. Grilles and air valves should not be swapped around.

## 2.6. Applications with new housing developments

High levels of moisture is found in building materials for new housing – about 4,000 litres per house on average. This moisture originates from wet building materials such as concrete, cement, plaster and adhesives. Materials can also become wet from rain during the construction period. The best way to eliminate this moisture is to

ventilate the house properly and keep the temperature as constant as possible.

### **Forced drying: not too fast**

Heating the house to promote the drying process is sometimes called forced drying. Forced drying should not be done too quickly, otherwise significant damage (such as contraction cracks) can occur. It is therefore recommended to give careful attention to forced drying. Bear in mind that the forced drying process may take as long as six months. Set the heating to 15 to 18°C, and raise it to 20°C after moving in. Do not set the heating any higher, as the materials will start drying too quickly and damage to the building structure may occur.

### **Ventilation during forced drying**

Good ventilation and air circulation are essential during the drying process. During the first year, keep furniture approximately 5 cm away from the walls to allow the moisture to escape. Open the windows each day for sustained periods. The ventilation grilles must remain open all the times and the forced air ventilation system should be left to run constantly (don't unplug it), Run the forced air ventilation system at high speed as often as possible during the first few months.

This will create the most favourable air circulation in the house.

### **Energy costs**

Good, continuous ventilation is not only important for good health; it is also important to avoid moisture problems in the house. However, ventilation takes heat out of the house. Forced drying new houses also results in higher energy consumption, resulting in a higher energy costs.

## 2.7. Product fiche information

Heatrae Sadia			HRU ECO 4
Description	Symbol	Unit	
Specific energy consumption class	—	—	A
Specific energy consumption under average climate conditions	SEC	kWh/(m <sup>2</sup> .a)	-37
Specific energy consumption under warm climate conditions	SEC	kWh/(m <sup>2</sup> .a)	-12
Specific energy consumption under cold climate conditions	SEC	kWh/(m <sup>2</sup> .a)	-78
Type of ventilation unit	VU	—	- Residential ventilation unit (RVU) - Bidirectional ventilation unit (BVU)
Type of drive	—	—	Variable speed
Type of heat recovery system	HRS	—	Recuperative
Thermal efficiency of heat recovery	$\eta_t$	%	88
Maximum flow rate	$Q_{max}$	m <sup>3</sup> /h	350
Electric power input of fan drive at maximum flow rate	$P_{max}$	W	154
Sound power level	LWA	dB	52
Reference flow rate	$Q_{ref}$	m <sup>3</sup> /s	0.069
Reference pressure difference	$\Delta P_{ref}$	Pa	50
Specific power input	SPI	W/(m <sup>3</sup> /h)	0.255
Ventilation control	—	—	Manual control (no DCV)
Control factor	CTRL	-	1
Specified maximum internal leakage rates for bidirectional ventilation units	—	%	2.0
Specified maximum external leakage rates for bidirectional ventilation units	—	%	3.0
Position of visual filter change warning	—	—	On the unit
Pre-/dis-assembly instructions	—	—	<a href="http://www.heatraesadia.com">www.heatraesadia.com</a>
Annual electricity consumption	AEC	kWh	3.4
Annual heating saved under average climate conditions	AHS	kWh	45
Annual heating saved under warm climate conditions	AHS	kWh	20
Annual heating saved under cold climate conditions	AHS	kWh	88
Specific precautions to be taken for assembly, installation or maintenance			Read the manual before installation and use

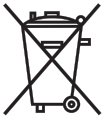
## 2.8. Accessories

Item no.	Type	Description
95980003	RFT W	Wireless control switch with three settings and timer function. (White)
95970204	RFT AUTO	Wireless RF control switch with 2 settings, an automatic mode and a timer function.
95970002	Wired Controller	Wired three-position switch for installation
95970201	RFT-CO2 230V	RFT CO <sub>2</sub> sensor 230 V
95970203	RFT-RV BAT	RFT-RV battery-powered sensor
95970202	RF-PIR BAT	RF-PIR battery-powered presence sensor

## 2.9. Recycling

This product was manufactured using sustainable materials. It should be disposed of in a responsible manner at the end of its life cycle. Your local authorities can provide you with information on how to do so.

The product's packaging can be recycled. These materials should be disposed of in a responsible manner in accordance with government regulations.



As a reminder of the need to dispose of batteries and electrical household appliances separately, the product features a symbol consisting of a crossed-out wheeled bin. This means that the product should not be disposed of with the rest of your domestic waste at the end of its life cycle. It must be taken either to a special separate waste collection centre operated by the local council or to an outlet specified by this service.

Any adverse effects on the environment and human health are minimised by handling batteries and household appliances separately. This ensures that the materials comprising the appliance can be recycled, thereby saving a significant amount of energy and raw materials.

# 3. Operation

## 3.1. Ventilation speeds

The ventilation unit can be set to any of the following speeds:

- Level 1, **low speed**: when just one person is present during the day or night, or nobody is present.
- Level 2, **medium speed**: when more than one person is present during the day or night.  
or  
Auto mode **automatic mode**; control based on connected sensors (CO<sub>2</sub>, RH and/or PIR). The capacity is automatically regulated between low and high.
- Level 3, **high speed**: during cooking, showering or bathing, or when many people are present.
- Timer

The duration of the timer can be set as follows.

- Press the timer button once: 10 minutes at high speed.
- Press the timer button twice: 20 minutes at high speed.
- Press the timer button three times: 30 minutes at high speed.

When the timer expires, the unit switches back to the last selected speed before the timer was started unless that was high speed. In that case, the unit switches back to low speed or automatic mode, depending on which of these was most recently selected.

### Note

The timer can be stopped at any time by pressing the button for low speed, high speed or automatic mode.

- **Auto-Night**. **Auto-Night** raises the minimum ventilation speed to ensure sufficient ventilation during the night. You can set the unit to **Auto-Night** when you go to bed in the evening. Always ensure that the room grilles are open when using this setting.

To select **Auto-Night**, press the **Auto** button on the wireless control switch or sensor/control device *twice*. **Auto-Night** cannot be set with the wired three-position switch.

### ⚠ Caution!

**Auto-Night** does not switch off automatically after a defined time. You should manually switch to **Auto** (or another level) in the morning.

### ⚠ Caution!

**Auto-Night** is only available in combination with a single CO<sub>2</sub> sensor. With multiple CO<sub>2</sub> sensors, the ventilation is automatically adjusted in the bedrooms and **Auto-Night** is not necessary.

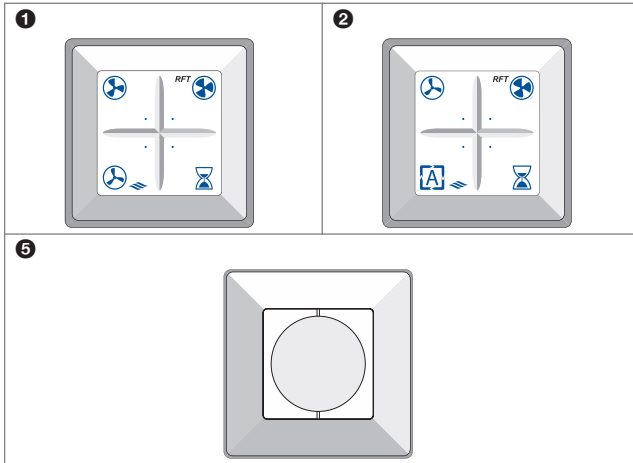
### Note

When several devices are used, the ventilation speed on the wired control switch may not match the actual ventilation speed because the ventilation unit has been set to a different speed by another control or sensor.

### Note

The actual ventilation speed can always be seen on the (optional) external CO<sub>2</sub> sensor or RH sensor.

### 3.2. Devices



The ventilation unit has several pre-programmed modes. A number of control switches are available for active adjustment to the right mode/ventilation capacity:

1. Wireless control switch with three settings and timer function.
2. Wireless control switch with two settings, automatic mode and timer function.
3. Wired three-position switch for installation.

A combination of the above options.

You can pair a maximum of 20 wireless control switches and/or sensors with a Heatrae Sadia ventilation unit or system.

### 3.3. Sensors

The ventilation unit can be controlled by the following available sensors:

- RFT CO<sub>2</sub> sensor; 230 V
- RFT RV sensor; battery-powered
- RF-PIR BAT battery-powered.

For pairing or unpairing a wireless sensor with the unit, see Pairing and unpairing wireless devices and sensors on page 15.

### 3.4. Pairing and unpairing wireless devices and sensors

#### 3.4.1. Pairing wireless devices

Pairing a wireless control switch should be done in the vicinity of the ventilation unit.

- a) Switch off power to the ventilation unit, wait 15 seconds, and then switch on power again.
- b) Within two minutes, press two diagonally opposite buttons at the same time on the control switch.

The control switch is now paired with the ventilation unit. For information about pairing and unpairing optional controls, see the documentation included with the controls.

#### 3.4.2. Unpairing RF devices

Unpairing a wireless control switch should be done in the vicinity of the ventilation unit.

- a) Switch off power to the ventilation unit, wait 15 seconds, and then switch on power again.
- b) Within two minutes, press the four buttons of the control switch at the same time.

Now the ventilation unit will no longer respond to the control switch(es). Unpairing one control switch automatically unpairs *all* switches, controls and sensors.

### 3.4.3. Pairing wireless sensors

Pair wireless sensors with the ventilation unit as follows:

- a) Disconnect power to the ventilation unit by pulling out the plug from the power socket.
- b) Wait for at least 15 seconds.
- c) Restore power to the ventilation unit by reinserting the plug in the power socket.
- d) Ensure that a pairing message is sent from the sensor within two minutes after power to the ventilation unit is switched on. For more information, consult the documentation provided with the relevant sensor.

The sensor is paired and the ventilation unit briefly changes speed to confirm the pairing. The ventilation unit is now ready to respond to the signals of the wireless sensor.

### 3.4.4. Unpairing wireless sensors

The wireless sensors can only be unpaired at the same time as a wireless control. For more information, see the procedure Unpairing wireless devices.

#### **Note**

After unpairing, all wireless devices (switches and/or sensors) must be paired with the ventilation unit again.



# 4. Inspection and maintenance

Proper functioning of the ventilation system, its capacity and its service life can only be assured if the system is inspected and maintained in accordance with the following instructions. These instructions are based on normal operating conditions.

## Caution!

If the ventilation system is being used under harsh operating conditions or in a very dirty environment, extra maintenance may be required.

## 4.1. Inspection and maintenance schedule

Inspection schedule		User	Installer
<b>G3 filter</b>	Check for soiling	1 week	—
<b>G4 filter</b>		9 months	1 year
<b>F7 filter</b>		6 months	1 year
<b>Ventilation unit</b>	Check for soiling and leakage	6 months	1 year
<b>Motor module</b>	Check for soiling/imbalance	—	1 year
<b>Bypass valve/Frost valve</b>	Check functioning and for soiling	—	1 year
<b>Heat exchanger</b>	Check for soiling	—	1 year
<b>Air valves</b>	Check for soiling	3 months	1 year
<b>Ducts</b>	Check for soiling	—	4 years

Maintenance schedule		User	Installer
<b>G3 filter</b>	Clean (first 3 months)	1 week	Where necessary
	Replace (with G4 or F7)	3 months	Where necessary
<b>G4 filter</b>	Clean	9 months	Where necessary
	Replace	18 months	Where necessary
<b>F7 filter</b>	Clean	6 months	Where necessary
	Replace	12 months	Where necessary
<b>Insect filter</b>	Clean	12 months	Where necessary
<b>Ventilation unit</b>	Clean condensate hose	—	1 year
<b>Fan module</b>	Clean	—	4 years
<b>Heat exchanger</b>	Clean	—	1 year
<b>Bypass valve/Frost valve</b>	Clean	—	1 year
<b>Air valves</b>	Clean	3 months	1 year
<b>Ducts</b>	Clean	—	8 years

## 4.2. Inspecting, cleaning and replacing filters

### Note

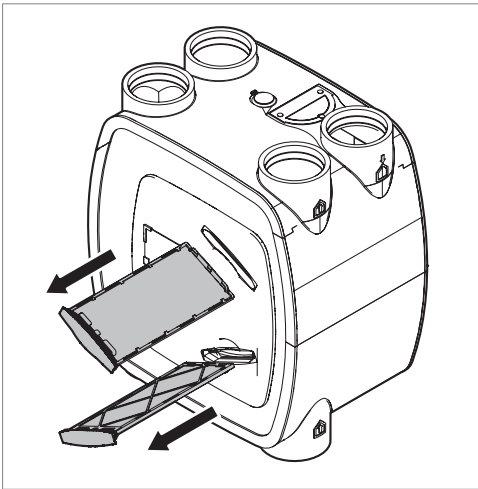
The HRU ECO 4 comes with G3 filters as standard. These filters are very suitable for use as "construction dust filters" after initial completion of the dwelling. After around three months, these filters should be replaced with G4 or F7 filters.

### ⚠ Caution!

G4 and F7 filters can be cleaned once, after which they must be replaced at the next maintenance interval.

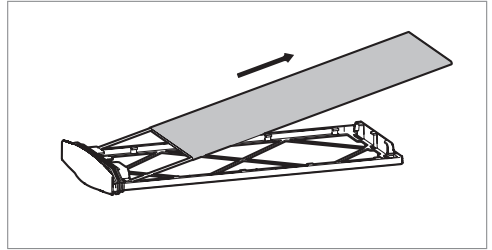
Inspect and clean or replace the filters as follows:

- Disconnect power to the ventilation unit.
- Remove both filter holders.

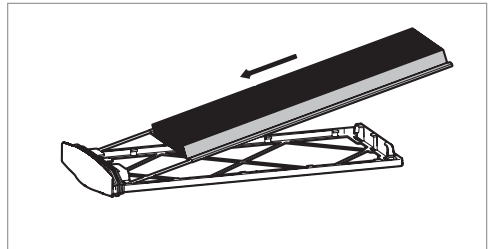


- Visually inspect the filters for soiling. If the filters are dirty, they must be cleaned or replaced.
- Clean or replace the filters. It is possible to clean the filters by using a vacuum cleaner gently.

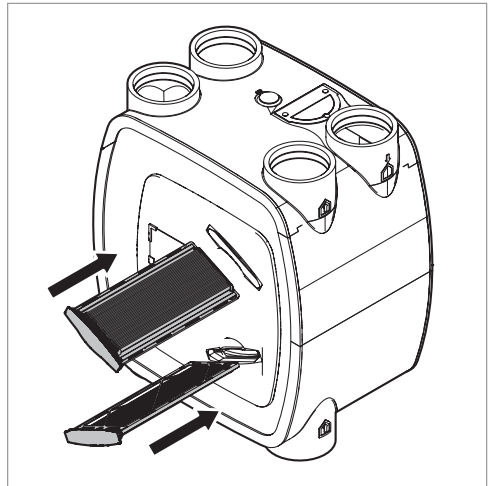
- If the filter is to be replaced, remove it from the filter holder.



- Fit the new filter in the filter holder.



- Place both filter holders back into the ventilation unit.



- Restore power to the ventilation unit.

### ⚠ Warning!

HRU ECO 4 should always be fitted with the appropriate filters. Without filters, the appliance can be irreparably damaged.

## 4.2.1. Resetting the filter indication

After cleaning or replacing the filter, you can reset the dirty filter indication:

- To perform the reset, you must *first* switch off power to the ventilation unit, wait 15 seconds, and then restore power to the unit.

You then have 10 minutes to reset the filter indication as described below:

- Wired switch: Turn the wired control switch to a different setting four times, with a pause of at least 6 seconds each time.
- Wireless control switch: Press two adjacent buttons on the control switch at the same time.

### Warning!

HRU ECO 4 should always be fitted with the appropriate filters. Without filters, the appliance can be irreparably damaged.

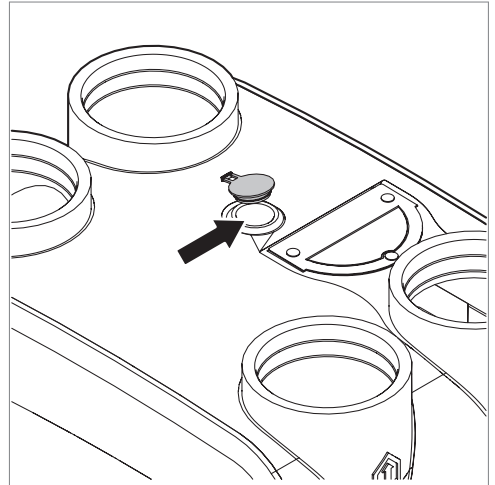
### Note

The dirty filter indication cannot be reset via the control panel.

## 4.3. Cleaning the insect filter

The insect filter must be cleaned once per year. This can be done by the user.

- a) Remove the plug from the power socket or switch off the ventilation unit.
- b) Remove the yellow cap on the top of the ventilation unit.



- c) Then insert the hose of a vacuum cleaner in the hole and switch on the vacuum cleaner. Any insects and other soiling in the filter will be removed by the vacuum cleaner.
- d) Replace the yellow cap.
- e) Put the HRU ECO 4 back into use by reinserting the plug into the power socket.

## 4.4. Inspecting and cleaning air valves

Check the air valves regularly (around once every three months) for soiling. If the air valves are dirty, they must be cleaned.

### Caution!

When removing or replacing air valves and grilles, watch out for protruding duct sections. These can be very sharp.

### Caution!

When cleaning, do not adjust the air valve settings, and replace the valves in their original ducts.

Proceed as follows to clean the air valves.

In case of light soiling, wipe the valves clean with a slightly damp cloth. If necessary, use a solution of a mild cleaning agent, such as washing-up liquid or all-purpose cleaner.

If the valves are soiled with stubborn deposits, remove them entirely from the duct.

- a) Remove the foam rubber gaskets.
- b) Fully immerse the valves in a solution of a mild cleaning agent, such as washing-up liquid or all-purpose cleaner. If necessary the valves can be cleaned in a dishwasher.
- c) Wipe off the valves with a cloth or a soft brush.
- d) Dry the valves. Fit the foam rubber gaskets back on the valves.
- e) Place each valve back in the duct where it came from.

## 4.5. Wireless device maintenance

The wireless control switch is battery powered. Under normal usage conditions, the battery has an estimated service life of around 7 years. When the battery is empty, the control switch will stop working and the ventilation unit will no longer respond to manual operation. The battery (type CR2032 3V) must then be replaced. Inserting the battery incorrectly may damage the product. The batteries should not be exposed to excessive heat in the form of direct sunlight, fire, etc.

It is not necessary to pair the control switch again.

# 5. Faults

The tables below contain a complete overview of possible problems and solutions. As a user, you can correct some problems yourself, but some you cannot.

For problems you cannot resolve yourself, please contact the installer.

The status LED on the ventilation unit blinks orange	
Cause	Solution
a) The ventilation unit detects that the filters need to be cleaned or replaced.	<ul style="list-style-type: none"> <li>• Clean or replace the filters. For more information, see Inspecting, cleaning and replacing filters on page 18.</li> <li>• Reset the dirty filter indication afterwards. For more information, see Resetting dirty filter indication.</li> </ul>

The status LED on the ventilation unit blinks once red and once orange	
Cause	Solution
a) The ventilation unit detects a fault with the exhaust fan.	<ul style="list-style-type: none"> <li>• Check whether the exhaust fan is properly connected. Connect the fan properly.</li> <li>• Check the fan for soiling and clean it if necessary.</li> <li>• Check the fan for defects and replace it if necessary.</li> </ul>

The status LED on the ventilation unit blinks once red and twice orange	
Cause	Solution
a) The ventilation unit detects a fault with the supply fan.	<ul style="list-style-type: none"> <li>• Check whether the supply fan is properly connected. Connect the fan properly.</li> <li>• Check the fan for soiling and clean it if necessary.</li> <li>• Check the fan for defects and replace it if necessary.</li> </ul>

The status LED on the ventilation unit blinks twice red and twice orange	
Cause	Solution
a) The ventilation unit detects a fault with the exhaust temperature sensor.	<ul style="list-style-type: none"> <li>• Check whether the sensor is properly connected. Connect the sensor properly.</li> <li>• Check the sensor for defects, and replace it if necessary.</li> </ul>

The status LED on the ventilation unit blinks twice red and three times orange	
Cause	Solution
a) The ventilation unit detects a fault with the supply temperature sensor.	<ul style="list-style-type: none"> <li>• Check whether the sensor is properly connected. Connect the sensor properly.</li> <li>• Check the sensor for defects, and replace it if necessary.</li> </ul>

The status LED on the ventilation unit blinks three times red and once orange	
Cause	Solution
a) The ventilation unit detects a fault with the sensor.	<ul style="list-style-type: none"> <li>• Check whether the sensor is properly connected. Connect the sensor properly.</li> <li>• Check the sensor for defects, and replace it if necessary.</li> </ul>

The status LED on the ventilation unit lights up green for 6 seconds and blinks once orange	
Cause	Solution
a) Frost mode is active.	<ul style="list-style-type: none"> <li>• This is not a fault. The unit will automatically return to normal operation once the temperature rises above freezing.</li> </ul>

The status LED on the ventilation unit lights up green for 5 seconds and blinks twice orange	
Cause	Solution
a) Bypass mode is active.	<ul style="list-style-type: none"> <li>• This is not a fault. The unit will automatically return to normal operation.</li> </ul>

Neither fan is rotating	
Cause	Solution
a) The ventilation unit's plug is not plugged into a power socket.	<ul style="list-style-type: none"> <li>• Insert the plug into a power socket.</li> </ul>
b) The power socket is not providing power.	<ul style="list-style-type: none"> <li>• Restore the power at the power socket.</li> <li>• Use another power socket.</li> </ul>
c) The fuse on the circuit board is faulty.	<ul style="list-style-type: none"> <li>• Replace the fuse.</li> </ul>
d) The ventilation unit PCB is faulty.	<ul style="list-style-type: none"> <li>• Replace the PCB and carry out the commissioning procedure again.</li> </ul>

The exhaust fan (bottom) has stopped	
Cause	Solution
a) The fan connector is loose or not properly connected.	<ul style="list-style-type: none"> <li>• Fit the fan connector on the correct connector on the circuit board.</li> </ul>
b) The fan is blocked or stuck due to heavy soiling.	<ul style="list-style-type: none"> <li>• Clean the fan impeller. Watch out for the balance clips.</li> </ul>
c) The fan is defective.	<ul style="list-style-type: none"> <li>• Replace the fan.</li> </ul>
d) The ventilation unit PCB is faulty.	<ul style="list-style-type: none"> <li>• Replace the PCB and carry out the commissioning procedure again.</li> </ul>

The supply fan (top) has stopped	
Cause	Solution
a) The fan connector is loose or not properly connected.	<ul style="list-style-type: none"> <li>Fit the fan connector on the correct connector on the circuit board.</li> </ul>
b) Frost control is active.	<ul style="list-style-type: none"> <li>If the outside temperature becomes very cold, the fan is switched off to avoid freezing of the heat exchanger. The fan will start running again when the outside temperature rises enough.</li> </ul>
c) The fan is blocked or stuck due to heavy soiling.	<ul style="list-style-type: none"> <li>Clean the fan impeller. Watch out for the balance clips.</li> </ul>
d) The fan is defective.	<ul style="list-style-type: none"> <li>Replace the fan.</li> </ul>
e) The ventilation unit PCB is faulty.	<ul style="list-style-type: none"> <li>Replace the PCB and carry out the commissioning procedure again.</li> </ul>

The ventilation unit is noisy	
Cause	Solution
a) The fan is blocked or stuck due to heavy soiling.	<ul style="list-style-type: none"> <li>Clean the fan impeller. Watch out for the balance clips.</li> </ul>
b) The fan is imbalanced.	<ul style="list-style-type: none"> <li>Replace the fan.</li> </ul>
c) The unit is mounted on a wall/ceiling/floor with insufficient load-bearing capacity.	<ul style="list-style-type: none"> <li>If the ventilation unit cannot be relocated, try using vibration dampers to decouple it from the wall, ceiling or floor.</li> </ul>
d) The ducts are not correctly connected to the unit.	<ul style="list-style-type: none"> <li>Check the connections and ensure that fixed ducts are clamped to the wall, ceiling or floor.</li> </ul>
e) The bypass valve is blocked (rattling noise).	<ul style="list-style-type: none"> <li>The bypass valve strikes the stop during the self-test after power is switched on. Wait 30 seconds and check whether the noise has stopped.</li> <li>Inspect the valve. Clean it if it has become blocked with dirt. Replace the valve if there is a different cause of the fault.</li> </ul>

The ventilation unit is not responding to the RF remote controls	
Cause	Solution
a) The battery of the RF remote control is empty.	<ul style="list-style-type: none"> <li>Replace the battery.</li> </ul>
b) The RF remote control is not paired with the ventilation unit.	<ul style="list-style-type: none"> <li>Restart the commissioning procedure and pair the RF remote control.</li> </ul>
c) The distance between the ventilation unit and the RF remote control is too large or there are too many obstacles interfering with the signal.	<ul style="list-style-type: none"> <li>Try pairing the devices again. If this does not work, move the RF remote control to a location where there are fewer obstacles to interfere with it.</li> </ul>
d) The brand names of the RF control switch and the ventilation unit are different.	<ul style="list-style-type: none"> <li>Replace the RF device by one with the same brand name as the ventilation unit.</li> </ul>
e) The ventilation unit PCB is faulty.	<ul style="list-style-type: none"> <li>Replace the PCB and carry out the commissioning procedure again.</li> </ul>

The fan runs at high speed when low speed is selected and at low speed when high speed or timer mode is selected	
Cause	Solution
a) One of the ventilation unit's internal temperature sensors is faulty.	<ul style="list-style-type: none"> <li>Replace the faulty temperature sensor.</li> </ul>

The fan suddenly starts running much faster or slower (for no apparent reason)	
Cause	Solution
a) The RF remote control from a neighbouring property is paired with <i>this</i> ventilation unit.	<ul style="list-style-type: none"> <li>Disconnect power to the ventilation unit for 15 seconds. Unpair any paired RF devices (switches and/or sensors) and then pair them again.</li> </ul>

The ventilation unit is not responding to the three-position switch	
Cause	Solution
a) The ventilation unit's plug is not plugged into a power socket.	<ul style="list-style-type: none"> <li>Insert the plug into a power socket.</li> </ul>
b) The power socket is not providing power.	<ul style="list-style-type: none"> <li>Restore the power at the power socket.</li> <li>Use another power socket.</li> </ul>
c) The switch wires of the three-position switch are connected incorrectly.	<ul style="list-style-type: none"> <li>Connect the switch wires correctly (see wiring diagram).</li> </ul>
d) The ventilation unit PCB is faulty.	<ul style="list-style-type: none"> <li>Replace the PCB and carry out the commissioning procedure again.</li> </ul>

The ventilation unit is leaking water	
Cause	Solution
a) The condensate drain is not connected.	<ul style="list-style-type: none"> <li>Connect one of the two condensate drains.</li> </ul>
b) The condensate drain is blocked.	<ul style="list-style-type: none"> <li>Unblock the condensate drain and try to identify the cause of the problem.</li> </ul>

The ducts leading outside are wet (on the outside) and/or are leaking water	
Cause	Solution
a) The ducts leading outside are not thermally insulated or vapour-tight.	<ul style="list-style-type: none"> <li>Ensure that the ducts leading outside are thermally insulated and vapour-tight over their entire length.</li> </ul>
b) The roof feedthrough is not rainproof or vapour-tight.	<ul style="list-style-type: none"> <li>Replace the existing roof feedthrough(s) with rainproof and vapour-tight roof feedthrough(s).</li> </ul>

The valves are noisy	
Cause	Solution
a) No noise dampening hose has been installed in the ducts leading into the dwelling.	<ul style="list-style-type: none"> <li>Install noise damping hoses on the ducts leading into the dwelling.</li> </ul>
b) The air valves are not correctly adjusted.	<ul style="list-style-type: none"> <li>Put the ventilation unit in commissioning mode and readjust the system settings.</li> </ul>



The air quality in the dwelling is not good / air supply and extraction in the dwelling are not working properly

Cause	Solution
a) One or both filters are dirty or blocked.	<ul style="list-style-type: none"> <li>● Clean or replace dirty/blocked filters.</li> </ul>
b) The valves are dirty or blocked.	<ul style="list-style-type: none"> <li>● Clean the valves.</li> </ul>
c) The air valves are not correctly adjusted.	<ul style="list-style-type: none"> <li>● Put the ventilation unit in commissioning mode and readjust the system settings.</li> </ul>
d) The fan is not running.	<ul style="list-style-type: none"> <li>● See "The ventilator is not running".</li> </ul>

Cold air is being supplied to the dwelling

Cause	Solution
a) The filter in the extraction outlet is blocked.	<ul style="list-style-type: none"> <li>● Clean or replace the filter in the air outlet.</li> </ul>
b) The air valves are not correctly adjusted.	<ul style="list-style-type: none"> <li>● Put the ventilation unit in commissioning mode and readjust the system settings.</li> </ul>
c) The bypass valve is in bypass mode when it should not be.	<ul style="list-style-type: none"> <li>● Clean the bypass valve if it is dirty.</li> <li>● Replace the entire bypass valve if it is defective.</li> </ul>
d) One of the temperature sensors is faulty.	<ul style="list-style-type: none"> <li>● If the supply air temperature sensor is faulty, replace the wiring harness with the temperature sensor in the motor module.</li> <li>● If the exhaust air temperature sensor is faulty, replace the entire bypass module.</li> </ul>

# 6. Warranty

HRU ECO 4 is supplied with a two-year parts and labour warranty, protecting the product against faulty manufacture and materials. The warranty period applies from the date of installation.

## Disclaimer

This warranty does not apply to:

- Disassembly and assembly costs.
- Faults which are caused by incorrect treatment.
- Negligence or accident.
- Faults that have been caused by repairs by third parties without authorisation from Heatrae Sadia.

If the appliance does not function correctly or develops a fault please contact Heatrae Sadia immediately.

Ensure that only genuine spares are used for repairs.

# 7. Declarations

EG-Verklaring van overeenstemming | Déclaration de conformité CE |  
EG-Konformitätserklärung | EC Declaration of Conformity

Heatrae Sadia  
Hurricane Way  
Norwich NR6 6EA  
United Kingdom

Verklaart dat het product | Déclare que le produit |  
Erklärt dass das Produkt | Declares that the product:

- **Ventilation unit with heat recovery  
HRU ECO 4-Apartment**
- **Ventilation unit with heat recovery  
HRU ECO 4 House**

Voldoet aan de bepalingen gesteld in de richtlijnen |  
Répond aux exigences des directives |  
Entspricht den Anforderungen in den Richtlinien |  
Complies with the requirements stated in the directives:

- Low Voltage Directive **2014/35/EU**
- Electromagnetic Compatibility (EMC) Directive **2014/30/EU**
- Directive **2009/125/EC** establishing a framework for the setting of ecodesign requirements for energy-related products
- Directive **2010/30/EU** on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products.
- **Commission Regulation (EU) No 1253/2014** of 7 July 2014 implementing Directive 2009/125/EC of the European Parliament and of the Council with regard to ecodesign requirements for ventilation units
- **Commission Delegated Regulation (EU) No 1254/2014** of 11 July 2014 supplementing Directive 2010/30/EU of the European Parliament and of the Council with regard to energy labelling of residential ventilation units

Voldoet aan de geharmoniseerde Europese normen |  
Répond aux normes Européennes harmonisées |  
Entspricht den harmonisierten europäischen Normen |  
Complies with the harmonized European standard:

- EN 60335-1:2012 | EN 60335-2-80:2003/A1:2004  
EN 60335-2-80:2003/A2:2009
- EN 60730-1:2012
- EN 55014-1:2007 | EN 55014-1:2007/C1:2009  
EN 55014-1:2007/A1:2009 | EN 55014-1:2007/A2:2010  
EN 55014-2:1998 | EN 55014-2:1998/C1:1998  
EN 55014-2:1998/A1:2002 | EN 55014-2:1998/IS1:2007  
EN 55014-2:1998/A2:2008
- EN 61000-3-2:2006/A1:2009 | EN 61000-3-2:2006/  
A2:2009  
EN 61000-3-3:2013 | EN 61000-6-1:2007  
EN 61000-6-3:2007/A1:2011 | EN 61000-6-3:2007/AC:  
2012

Voldoet aan de volgende nationale en internationale technische normen en specificaties |  
Répond aux normes techniques nationales et internationales et aux spécifications nationales et internationales |  
Entspricht den folgenden nationalen und internationalen technischen Normen und Spezifikationen |  
Complies with the following national and international technical standards and specifications:

- Directive on the restriction of the use of certain hazardous substances in electrical and electronic equipment **2011/65/EU**

Norwich, 1 July 2017.

# HEATRAE SADIA

SMARTER | CLEANER | WARMER

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Hurricane Way, Norwich NR6 6EA

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