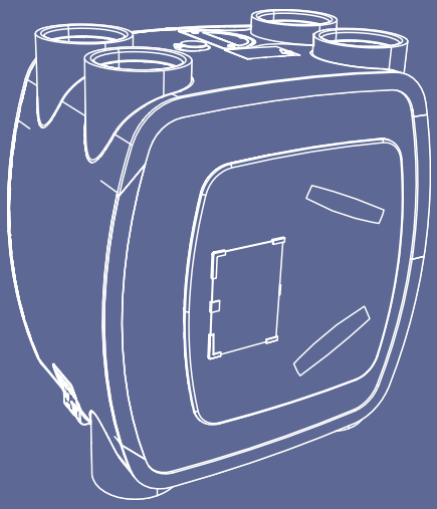
Itho Daalderop
HRU ECO 350

A

User manual



itho daalderop
Climate for life

Original document.

Foreword

This manual is intended for the user of the appliance and contains important information on the use, maintenance and malfunction of the appliance.

The installer is responsible for the installation and commissioning of the unit.

The following definitions are used in this manual to draw attention to dangers, instructions or directions relating to persons, product, installation and/or environment.

ä Warning!

Indicates a risk of personal injury to persons and/or serious damage to the product, installation or surroundings.

ä Attention!

Instruction relevant to the installation, operation, operation or maintenance of the product. Ignoring this instruction may cause minor bodily injury to persons and/or serious material damage to the product, installation or environment.

Note

Instruction relevant to the installation, operation, operation or maintenance of the product. Ignoring this instruction may cause minor material damage to the product, installation or environment.

Tip

Indications that may be relevant to the installation, operation, operation or maintenance of the product, not related to injury to persons or damage to property.

Tip

Don't forget to register the product via the website of Itho Daalderop!

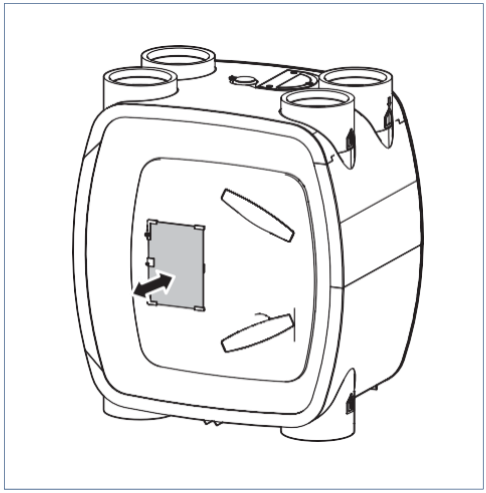
Although this manual has been compiled with the utmost care, no rights can be derived from it.

Itho Daalderop reserves the right to change products and manuals without prior notice.

Due to our continuous process of improving our products, this document may differ from the product delivered to you. You can download the latest version of this manual from our website.

Tip

Keep the manual in the appropriate place in the ventilation unit.



Content

1. Safety and regulations

1.1. Security

- Work on the ventilation system may only be carried out by approved installers (1) in accordance with the instructions in the manual. Only accessories and parts as prescribed by the manufacturer may be used.
- Do not use the product for purposes other than those for which it is intended, as described in this manual.
- Handle electrical appliances with care:
  - Never touch the device with wet hands.
  - Never touch the device when you are barefoot.
- This product and/or system may be operated by children aged 8 years and over and by persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they are supervised or instructed in its safe use and are aware of the dangers of the product and/or system.
- Cleaning and maintenance by the user must not be carried out by children or by persons with reduced physical, sensory or mental capabilities or a lack of experience and knowledge without supervision.
- Prevent children from playing with the product and/or system.
- Do not use the product in the presence of flammable or volatile substances such as alcohol, insecticides, petrol, etc.

- Safety instructions must be followed to prevent physical injury and/or damage to the product.
- Maintenance and cleaning may only be carried out after the appliance has been de-energized.
- The product contains rotating parts. Therefore, after disconnecting the product from the power supply, wait at least 10 seconds before opening or touching the product, because these parts will continue to rotate for some time.
- Secure the system against unintentional reactivation.
- Maintenance instructions must be followed to prevent damage and excessive wear and tear.
- The product must not be modified.
- The product is only suitable for a 230 V 50 Hz AC system.
- Make sure that the electrical system to which the product is to be connected meets the required conditions.
- Do not expose the product to weather conditions.
- Do not place any objects on the device.
- Regularly inspect the product for defects. In the event of defects, switch off the product and contact your installer or the Itho Daalderop service department immediately.
- Switch the product off when:
  - The product does not function properly.
  - You want to clean the outside of the product.
- Take care not to damage the electrical circuit.
- Do not use the appliance to vacuum water boilers, heating systems, etc.
- Make sure that the appliance drains into a drain that is suitable and laid for this purpose and that drains to the outside.
- Keep valves and grids free and clean.

1) A qualified installer is an installer working for a central heating or mechanical installation company registered with the Chamber of Commerce and included in the SEI recognition register (Stichting Erkenning Installatiebedrijven) or who has a Sterkin recognition.

2. Product information

2.1. Living comfort and energy savings

Living comfort and energy savings are becoming increasingly important in housing construction. Nowadays, homes are increasingly insulated, but unfortunately good insulation often comes at the expense of the indoor climate.
Without good ventilation, moisture, moulds and dust mites can escape, and the air in the house can quickly feel 'stuffy' due to an increasing concentration of CO2 (carbon dioxide). Itho Daalderop installs equipment that regulates the indoor climate and takes into account the requirements for comfort and energy consumption in homes.

One of these advanced devices is the Itho Daalderop ventilation system HRU ECO 350.

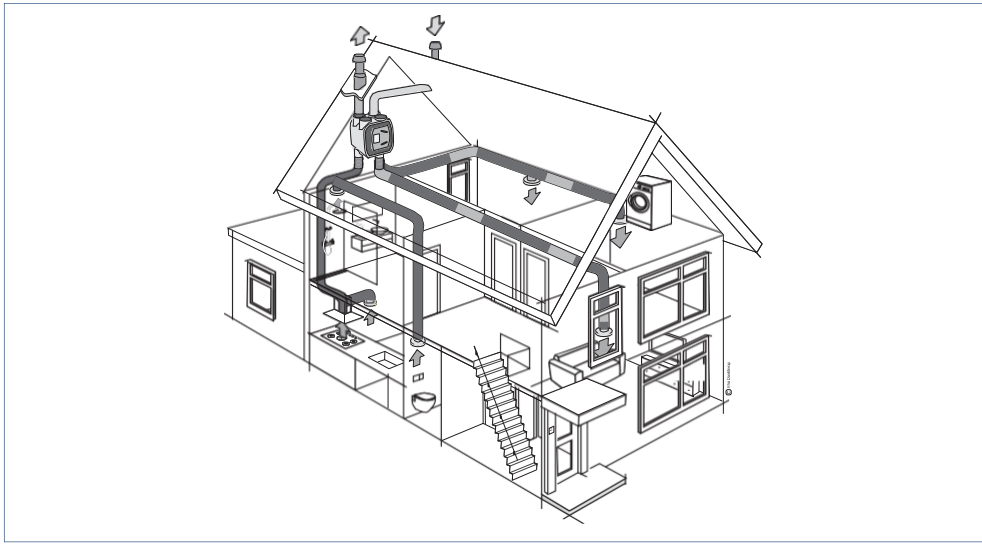
The HRU ECO 350 is a balanced ventilation system with heat recovery. The ventilation unit is equipped with two fans; one for the return air and one for the supply air.

The ventilation unit ventilates several rooms in the house. By means of ducts, the kitchen, the bathroom, the toilet and possibly the indoor storage/laundry room (the 'wet rooms') are connected to the ventilation unit for the removal of polluted/humid air.

The living room, the bedrooms and possibly the corridor/hallway are also connected to the ventilation unit by means of ducts, but fresh air is brought in here.

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

In this way, the HRU ECO 350 helps to reduce the humidity in your bathroom, refresh the toilet and drive cooking odours out of the kitchen.



2.2. Heat recovery

Before the polluted air is removed to the outside, it is filtered and passed through the heat exchanger. The fresh outside air is also filtered and passed through the heat exchanger before it is brought into the house. In the heat exchanger, the two air flows are routed past each other (i.e. they are not mixed with each other). As a result, the heat of the exhaust air transferred to the fresh supply air, so that this energy is not lost.

Heat recovery takes place with a very high efficiency. On average, about 90% of the heat removed is returned to the home. So there is only about 10% heat loss.

Note

Despite the heat exchange, in which the fresh outside air is pre-heated, the balanced ventilation system should not be regarded as a heating system. It is a ventilation system that contributes to a comfortable and healthy living environment in the home.

2.3. Filters

The HRU ECO 350 has two filters, one for each air flow. Both filters are placed in the ventilation unit in such a way that they protect the exchanger from contamination. In addition, the filter in the air supply also protects the user against dust and other contaminants in the sucked in outside air.
There are different types of filters:

- Filter G3.
  This filter is supplied as standard with the appliance and is very suitable as a 'building material filter' in the first period after delivery of the new home. After about three months the filter has to be replaced by a G4 or F7 filter.
- Filter G4.
  This coarse filter is mainly used to filter relatively large dust particles from the air. This mainly protects the heat exchanger against penetrating dirt.
- Filter F7.
  In addition to the coarser dust particles, this fine filter also retains finer dust particles (fine dust, pollen). Especially people with allergy complaints, who are sensitive to this, can benefit from this.

Over time, the filters will become dirty, which will reduce the capacity of the ventilation unit. It is therefore necessary that the filters are cleaned according to the instructions and eventually replaced.

ä Warning!

The HRU ECO 350 must be fitted with the appropriate ID filters at all times! Without filters, the unit can suffer irreparable damage.

2.4. Schemes

The HRU ECO 350 has a 3-position control as standard, whereby the ventilation flow in the low and high

of potmeters on the unit. In addition, the ventilation unit has some automatic controls that operate continuously in the background.

positions can be infinitely adjusted by means of

2.4.1. Summer bypass scheme

The purpose of the summer bypass control is to ventilate the house with less, or completely without heat transfer.

The Itho Daalderop heat recovery unit HRU ECO 350 is supplied as standard with a bypass valve that is 100% integrated in the unit. This valve works fully automatic. The bypass ensures that the sucked in outside air is guided around the exchanger. The return air still passes through the exchanger.

This automatic control will be activated mainly at night, in summer. The outside air is then usually cooler than the warm inside air.

> **Note**
>
> The summer bypass control is not cooling, but it does ensure that the house remains cool longer in the summer night.

2.4.2. Frost protection

The HRU ECO 350 is equipped with frost protection as standard. The frost protection consists of a unique frost valve that is integrated in the top of the unit. This valve works fully automatic and prevents the ventilation unit from freezing internally during winter days.

The air extracted from the house (return air) emits heat to the fresh air drawn in from outside.
This cools the return air in the heat exchanger. If the temperature of the return air in the heat exchanger gets too close to the freezing point, the unit 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 cold outside air.

At the same time, the supply fan turns faster so that the amount of fresh outside air remains the same. Because the fresh cold outside air is pre-heated, the warm exhaust air from the house does not have to heat up the cold freezing air as much. The temperature of the return air in the heat exchanger then remains safely above freezing point.
Should the outside temperature drop even further, the supply fan will turn softer to a minimum in the end.

If the temperature drops any further, the drain fan will run harder and the supply fan will continue to run at a minimum. If the outside temperature becomes extremely low, the supply fan will turn off, but the drain fan will continue to operate. The frost valve will therefore be closed.

After a certain period of time, the supply fan will start to run at a minimum and the frost valve will be opened again to check whether the danger of freezing has now disappeared. If the outside temperature rises, the above measures are carried out in reverse order until the danger of freezing has passed. The resident 'always' determines the discharge air quantity.

2.4.3. Status LED

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

Pattern		Function
Green	Orange	
Flashes 1x/s	Flashes 1x/s	Identification
Flashes 1x/s		Login mode
Burns 6 s	Flashes 1x/s	Frost mode
Burns 5 s	Flashing 2x/s	Bypass mode
Brandt		Normal operation
Pattern		Function
Red	Orange	
Flashes 1x/s	Flashes 1x/s	Error drain fan
Flashes 1x/s	Flashing 2x/s	Error supply fan
Flashing 2x/s	Flashing 2x/s	Sensor error outlet temperature
Flashing 2x/s	Flashing 3x/s	Sensor error supply temperature
Flashing 3x/s	Flashes 1x/s	Sensor error
	Flashes 1x/s	Filter dirt

2.4.4. Automatic ventilation based on CO2 measurement

A wireless $CO_{2\ sensor}$ can be connected to the ventilation unit.

For a healthy indoor climate and the prevention of a 'dull' house, it is important that it does not become too high.

The controllable sensor can be mounted in any room (except the bathroom), but preferably in living rooms and/or bedrooms.

The controllable sensor measures what is happening in the room. It translates the measured value into a ventilation wish and it communicates wirelessly to the ventilation unit to which the sensor has been logged in. In this way, the ventilation is continuously adjusted automatically and you are assured of a good indoor climate in the most efficient and energy-efficient way.

As soon as the weather has dropped sufficiently, the capacity of the ventilation unit is automatically reduced.

Tip

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

2.4.5. Automatic ventilation based on RH measurement

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

For a healthy indoor climate and the prevention of damp spots and moulds in the house, it is important that the relative humidity does not remain too high for too long.

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

The controllable sensor measures the relative humidity (RH) in the room. It translates this measured value into a ventilation wish and communicates it wirelessly to the ventilation unit on which the sensor is registered. In this way, the ventilation is continuously adjusted automatically and you are assured of a good indoor climate in the most efficient and energy-efficient way.

As soon as the RH has fallen sufficiently, the capacity is automatically reduced.

2.4.6. Automatic ventilation based on presence detection

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

For a healthy indoor climate and to prevent dirty odours in the house, it is important that sufficient ventilation is provided in the presence of persons.

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

The sensor detects presence (and absence) in the room and communicates this wirelessly to the ventilation unit to which it is logged on.

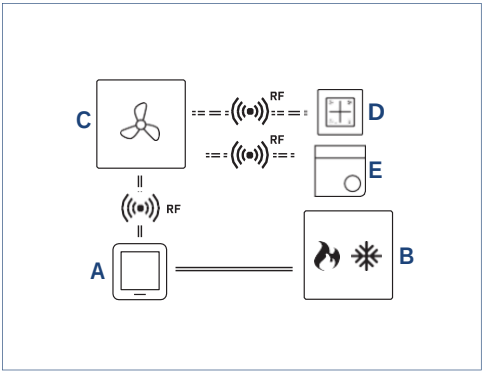
When the ventilation unit is in the Auto position, the capacity is continuously adjusted automatically.

If the sensor detects movement, the ventilation is steered to an increased capacity for a set period of time. If there is permanent presence detection, the capacity will be further increased. If the motion detector no longer detects movement for a set period of time, the capacity is automatically reduced again.

ä Attention!

Control based on wireless sensors (CO_2, RH and/or PIR) only works if the ventilation unit is in Auto/Auto night mode.

2.4.7. Operation with the air conditioning thermostat Spider



Schematic display connecting thermostat.

Legend

A Spider Climate Thermostat
B Boiler / heat pump
C Central heating unit
D Wireless control ventilation
E Wireless sensor with control

The Spider Climate Thermostat is a climate thermostat that regulates the temperature of the room in which it is placed. In addition to a central heating boiler, the thermostat is also suitable for controlling a heat pump which, in addition to heating, can also cool the house (1). The thermostat is connected OpenTherm® (wired or wirelessly(2)) or On/Off (wirelessly only) to the boiler or heat pump (3).

A unique feature of the climate thermostat is that it is also suitable for controlling your Itho Daalderop ventilation system (3). By connecting the ventilation unit wirelessly to the thermostat, you can also control the ventilation via the thermostat in addition to the wireless controls and sensors.

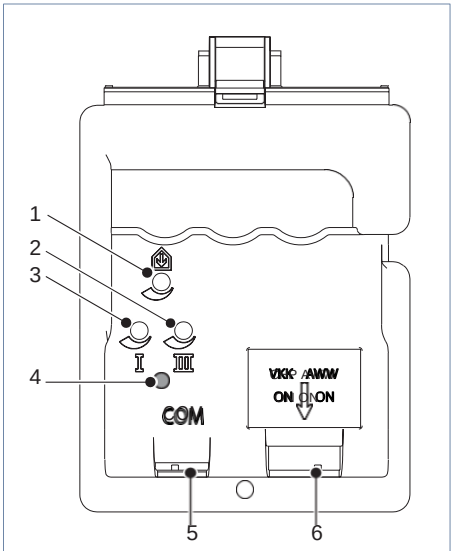
1) Function only available if the connected product supports the functionality.

2) Cooling via wireless OpenTherm® is not possible.

3) Check the website to see which products are suitable for the Spider Climate Thermostat.

2.4.8. Filter warning

The control of the ventilation unit keeps track of when the filters need to be cleaned or replaced by means of a counter. If a dirty filter is detected, the LED (4) on the ventilation unit flashes orange.



Legend

1 Balance supply setting
2 Potmeter-High setting
3 Potmeter-Low setting
4 Status LED / Dirt filter indication
5 Communication connection
6 Dipswitch setting (VKK & AWW)

Note

It is advisable to check the LED on the ventilation unit regularly.

ä Attention!

If a dirty filter is detected, the resident also receives a signal because the operation suddenly seems to work the other way around: if you press the Low mode button on the remote control, the ventilation unit goes to High mode and if you press High mode, the unit goes to Low mode.
Then check the LED on the ventilation unit. If it flashes, the filter must be cleaned or replaced.

2.4.9. Filter warning CO2 sensor or RH sensor

If the ventilation unit detects that the filter needs to be cleaned or replaced, the unit sends a message to the controllable CO2 sensor, and RH sensor (if connected). The status LED on the sensor then flashes orange at 1 Hz. After cleaning or replacing the filter, the counter must be reset, see Resetting the Dirty Filter Indication on page 19.

2.4.10. Filter warning Spider climate thermostat

If the ventilation unit detects that the filter needs to be cleaned or replaced, the unit sends a message to the Spider air conditioning thermostat (if connected). The display of the climate thermostat will show the message Replace filter. The orange filter symbol flashes and the ventilation symbol and the Service button illuminate continuously. After cleaning or changing the filter, the counter must be reset, see Resetting the dirt filter indicator on page 19.

2.5. Grids

The quantity of air to be extracted is regulated by law, and the quantity of air to be blown in must be in balance with this. In other words, as much air has to be extracted as is supplied. The minimum air quantity per room is also determined by law. The quantities are chosen in such a way that no unnecessary energy is wasted and still an optimum level of air quality is achieved.

indoor climate is achieved. For example, the air extraction and the air supply are different in size for each room. The extract and supply air grilles therefore each have their own fixed position and setting.

Note

It is very important that you do not make any changes to the setting of the gratings. This disrupts the proper functioning of the entire ventilation system. Do not exchange grilles and valves with each other.

2.6. Application in a new home

Each new home contains a large amount of building moisture, an average of around 4000 litres. This moisture comes from wet building materials such as concrete, cement, paint and glue. During construction, rain can also make the building materials wet. The building moisture disappears best by ventilating the house well and keeping the temperature as constant as possible.

Dry-fire - not too fast.
By bringing heat into the house you stimulate the drying process of the house, this is also called the drying of a house. This drying must not be done too quickly, because drying out too quickly results in a lot of damage (such as shrinkage cracks). It is therefore important to pay a lot of attention to dry firing. Keep in mind that this so-called dry firing process can take up to six months. Set the heating to 15 to 18°C, and when you are going to live there to 20 degrees. Do not turn up the heating, because if it becomes too hot the materials dry too quickly and damage may occur to the building structure.

Ventilation during dry firing.
During the drying process, good ventilation and circulation of the air is indispensable. During the first year, keep about 5 centimetres of space between the walls and your furniture so that moisture can escape. Open the windows for a while every day. In addition, the (night) ventilation grilles should be permanently open and always leave the mechanical ventilation system on, so never pull the plug out of the socket. During the first few months, set the mechanical ventilation to a high position as much as possible.
This creates the best possible air circulation in the home.

Energy bill.
Good and continuous ventilation is not only important for our health, it is also an important weapon against moisture problems in the home. With ventilation, heat is lost. The process of dry-firing a new home also results in higher energy consumption, which will result in a higher energy bill.

2.7. Product card information

Itho Daalderop			HRU ECO 350
Description	Symbol	Unit	
Specific energy consumption class	—	—	A
Specific energy consumption, under moderate climate conditions	SEC	kWh/(m^2.a)	-39
Specific energy consumption, under warm climate conditions	SEC	kWh/(m^2.a)	-13
Specific energy consumption, under cold climate conditions	SEC	kWh/(m^2.a)	-82
Type of ventilation unit	VE	—	- Residential ventilation unit (RVE) - Two-way ventilation unit (TVE)
Type of drive	—	—	Variable speed
Type of heat recovery system	HRS	—	Recuperative
Thermal efficiency of heat recovery	ηt	%	94
Maximum flow rate	qmax	m3/h	350
Electrical input power of the fan drive, at maximum flow rate	Pmax	W	154
Sound power level	LWA	dB	52
Reference flow rate	qref	m3/s	0,069
Reference pressure difference	ΔPref	Pa	50
Specific input power	SPI	W/(m^3/h)	0,255
Ventilation control	—	—	Manual control (no DCV)
Control factor	CTRL	-	1
Indicated maximum percentages for internal leakage for two-way ventilation units	—	%	2,0
Indicated maximum percentages for external leakage for two-way ventilation units	—	%	3,0
Replace warning filter	—	—	on the unit
Instructions for pre-assembly/disassembly	—	—	www.ithodaalderop.nl
Annual electricity consumption	AEC	kWh	3,4
Annual heating savings, under temperate climate conditions	AHS	kWh	47
Annual heating savings, under warm climate conditions	AHS	kWh	21
Heating saved annually, under cold conditions climate conditions	AHS	kWh	92
Specific precautions for assembly, installation or maintenance			Read the manual before installation and use

2.8. Accessories

Article no.	Type	Description
536-0124	RFT W	Wireless control switch with three modes and timer function. (White)
536-0150	RFT CAR	Wireless RF control switch with 2 modes, auto and timer function.
580-0230	HRS-3I C	Wired 3-position switch for installation
04-00045	RFT-CO2 230V	RFT-CO2 sensor with operation - 230 V powered
04-00046	RFT-RV BAT	RFT-RV sensor with control - battery-powered
545-7550	RF-PIR BAT	RF-PIR presence sensor - battery-powered
03-00062	Spider Base	Climate thermostat
545-1507	VKK	Ventilation Boiler Coupling
545-1508	VKK-HB	Ventilation Boiler Coupling HB
591-1070	FGD 180-50	Sound damping flexible hose, Ø 180 mm, length 50 cm
591-1270	FGD 180-100	Sound damping flexible hose, Ø 180 mm, length 100 cm
591-1050	FGD 152-50	Sound damping flexible hose, Ø 152 mm, length 50 cm
591-1250	FGD 152-100	Sound damping flexible hose, Ø 152 mm, length 100 cm
63-00004	OJ 600I	PureBlue Induct 600 air purifier

2.9. Recycle

Durable materials have been used in the manufacture of this product. This product must be disposed of responsibly at the end of its life. The government can provide you with information about this.

The packaging of the product is recyclable. These materials must be disposed of responsibly and in accordance with government regulations.

In order to draw attention to the obligation to dispose of batteries and household electrical equipment separately, the symbol of a crossed-out wheeled bin shall appear on the product. This means that at the end of its service life, the product must not be disposed of with ordinary household waste. The product must be taken to a special centre for separate collection in the municipality or to a point of sale that provides this service.

Separate treatment of batteries and household appliances avoids possible negative effects on the environment and health caused by inappropriate treatment. It ensures that the materials making up the appliance can be recovered in order to achieve significant savings in energy and raw materials.

3. Operation

3.1. Ventilation modes

The ventilation unit can be set to one of the following positions as required:

- Position 1, low position: when one person is present during the day or night or when nobody is present.
- Position 2, middle position: for day or night when more than one person is present.
  or
  Auto mode, automatic mode; control based on existing sensors (CO_2, RH and/or PIR). The capacity is automatically controlled between low and high position.
- Stand 3, high level: for when cooking, showering or bathing or when many people are present.
- Timer

The duration of the timer is determined as follows:

- Press timer button once: 10 minutes high.
- Press timer button twice: 20 minutes high.
- Press timer button 3 times: 30 minutes high.

After the timer has elapsed, the unit will return to the last mode selected before the timer was switched on, unless this is the high mode. In this case, the unit switches to low or automatic mode, whichever is selected last.

Note

The timer function can be interrupted at any time by pressing the low, high or automatic mode button.

- Auto-night stand. The Auto-Night setting ensures that the minimum ventilation setting is increased so that sufficient ventilation is also provided at night. You can use the Auto-Night setting when you go to bed in the evening. Make sure that the window grilles are open when using this mode.

To switch on the Auto-Night position, press the Auto-button *twice* on the wireless control switch or controllable sensor. The Auto-Night setting cannot be set using the wired three-position switch.

ä Attention!

The Auto-Night mode does not switch off automatically after a certain period of time. In the morning you have to switch on Auto mode (or another mode) yourself.

ä Attention!

The Auto-Night mode is only available when one CO_2 sensor is used. If several CO_2 sensors are used, the ventilation in the bedrooms is automatically adjusted and the Auto-Night mode is not required.

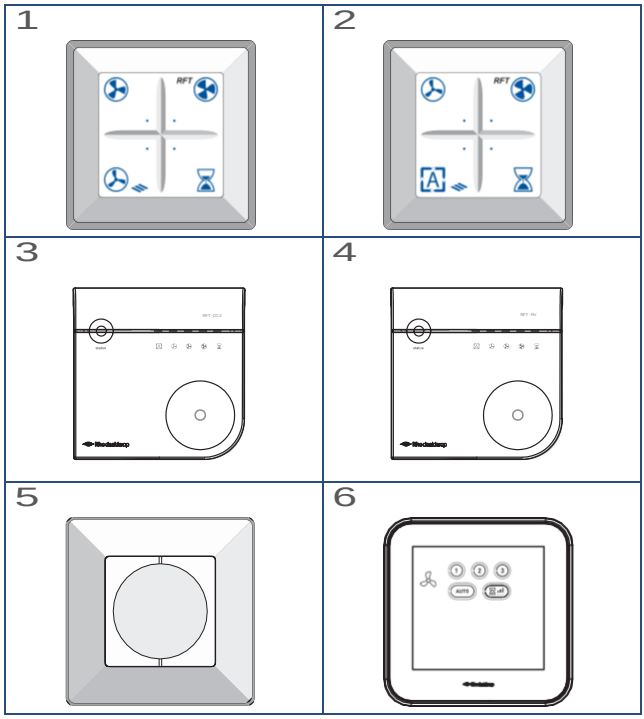
Note

If several controls are used, it may happen that the ventilation position on the wired control switch does not correspond to the current ventilation position because the ventilation unit has been set to a different position with a different control or sensor.

Note

The current ventilation position can always be read on the (optional) external CO_2 sensor or RH sensor.

3.2. Controls



Various positions are pre-programmed in the ventilation unit. A number of control switches are available for active tuning to the correct stand/ventilation capacity:

1. Wireless control switch mer three positions and timer function.
2. Wireless control switch with two positions, an automatic position and timer function.
3. Wireless CO_2 sensor with control - 230V powered.
4. Wireless stainless steel sensor with control - battery operated.
5. Wired 3-position switch for installation.
6. Spider Base, climate thermostat with three modes, an automatic mode and a timer function. When a Spider Connect system is installed; controllable via the Spider climate thermostat.

A combination of the above possibilities.
You can register up to 20 wireless control switches and/or sensors on an Itho Daalderop ventilation unit or system.

3.3. Sensors

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

- RFT-CO2 sensor including operation; 230V
- RFT-RV sensor with control - battery operated;
- RF-PIR BAT battery powered.

To enable or disable a remote sensor unit, see Enabling or disabling wireless controls and sensors on page 16.

3.4. Logging on and off of wireless controls and sensors

3.4.1. Sign in wireless controls

Preferably announce a wireless control switch in the vicinity of the ventilation unit.

a) Disconnect the power supply to the ventilation unit by removing the plug from the wall socket.
b) Wait at least 15 seconds.
c) Power the ventilation unit by plugging the plug back into the wall socket.
d) Within two minutes after the ventilation unit has been energised, press two diagonally placed buttons on the control switch simultaneously.

The control switch is registered and the ventilation unit briefly varies in speed to confirm the registration. The ventilation unit is now ready to be operated using the wireless control switch.

3.4.2. Log off wireless controls

Preferably sign off a wireless control switch in the vicinity of the ventilation unit.

a) Disconnect the power supply to the ventilation unit by removing the plug from the wall socket.
b) Wait at least 15 seconds.
c) Power the ventilation unit by plugging the plug back into the wall socket.
d) Press the four buttons of the control switch simultaneously within two minutes after the ventilation unit has been energised.

The ventilation unit no longer reacts to the wireless control switch(s) and sensors. Unsubscribing one control switch automatically reports *all* wireless accessories.

> **Note**
>
> After logging off, all wireless controls and/or sensors must be logged on again.

3.4.3. Sign up wireless sensors

Connect the remote sensor to the ventilation unit in the following way:

a) Disconnect the power supply to the ventilation unit by removing the plug from the wall socket.
b) Wait at least 15 seconds.
c) Power the ventilation unit by plugging the plug back into the wall socket.
d) Make sure that a notification message is sent from the sensor within two minutes after the ventilation unit has been powered up. Please refer to the documentation supplied with the sensor concerned.

The sensor is logged on and the ventilation unit briefly varies in speed to confirm the logging on. The ventilation unit is now ready to respond to signals from the wireless sensor.

3.4.4. Log off wireless sensors

The wireless sensors can only be logged off at the same time as a wireless controller. Please refer to the procedure for deregistering radiocontrols on page 16.

> **Note**
>
> After logging off, all wireless controls and/or sensors must be logged on again.

3.4.5. Subscribe and unsubscribe Spider Base

For information on how to register and unsubscribe the Spider Base climate thermostat, please refer to the documentation supplied with this product.

4. Inspection and maintenance

The correct functioning of the ventilation system, its performance and service life can only be guaranteed if the system is inspected and maintained in accordance with the regulations below. These regulations are based on normal operating conditions.

ä Attention!

When the ventilation system is operating under severe operating conditions or in an extra polluted environment, additional maintenance may be necessary.

4.1. Inspection and maintenance schedule

Inspection schedule		User	Installer
Sound	Check for abnormal noises	6 months	1 year
Filter G3	Pollution control	1 week	—
Filter G4		9 months	1 year
Filter F7		6 months	1 year
Ventilation unit	Pollution and leakage checks	6 months	1 year
Engine module	Pollution/Imbalance Control	—	1 year
Bypass valve/frost valve	Control of work/pollution	—	1 year
Heat exchanger	Pollution control	—	1 year
Valves	Pollution control	3 months	1 year
Channels	Pollution control	—	4 years

Maintenance schedule		User	Installer
Filter G3	Cleaning (first 3 months)	1 week	if required
	Replaced (by G4 or F7)	3 months	if required
Filter G4	Cleaning	9 months	if required
	Replace	18 months	if required
Filter F7	Cleaning	6 months	if required
	Replace	12 months	if required
Mosquito filter	Cleaning	12 months	if required
Ventialtion unit	Cleaning condensation hose	—	1 year
Fan module	Cleaning	—	4 years
Heat exchanger	Cleaning	—	1 year
Bypass valve/frost valve	Cleaning	—	1 year
Valves	Cleaning	3 months	1 year
Channels	Cleaning	—	8 years

4.2. Inspection, cleaning/replacing filters

Note

The HRU ECO 350 comes standard with G3 filters. These filters are very suitable as a 'building material filter' in the first period after delivery of the house. After about 3 months these filters need to be replaced by G4 or F7 filters.

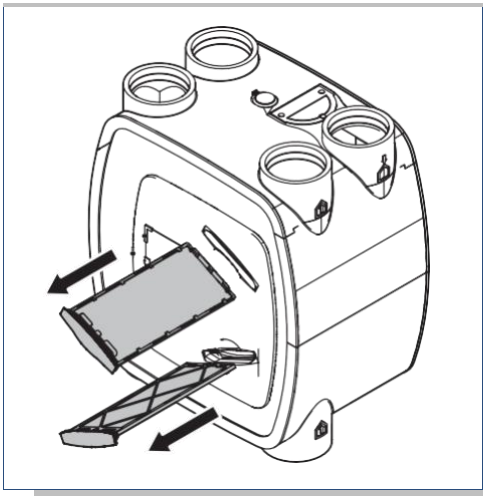
ä Attention!

G4 and F7 filters can be cleaned once and must be replaced at the next service.

Inspect and clean or replace the filters for the following wise:

a) Disconnect the ventilation unit from the power supply.

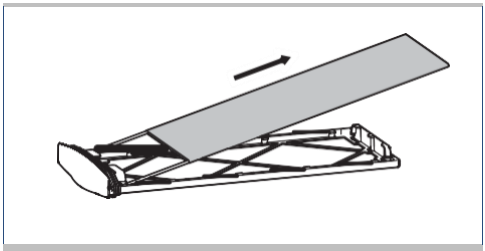
b) [illegible]



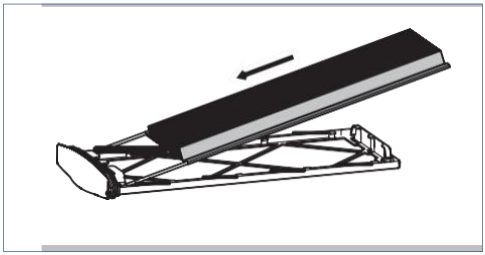
c) Visually inspect the filters for contamination. If the filters are dirty, they should be cleaned or replaced.

d) Clean or replace the filters. Cleaning can be done by carefully vacuuming the filters with a hoover.

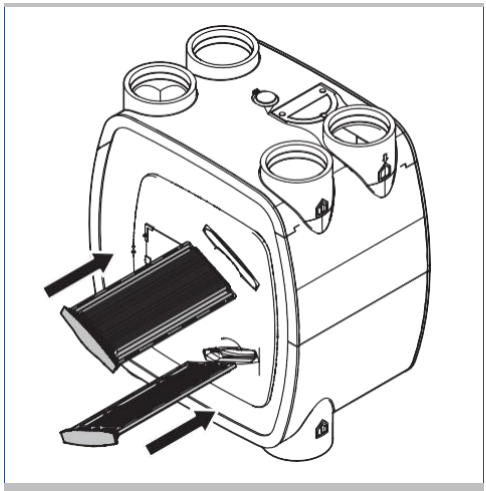
e) Remove the old filter from the filter holder when replacing it.



f) Place the new filter in the filter holder.



g) Replace both filter holders in the ventilation unit.



h) Bring the ventilation unit back under tension.

ä Warning!

The HRU ECO 350 must be fitted with the appropriate ID filters at all times! Without filters, the unit can suffer irreparable damage.

4.2.1. Resetting dirt filter indication

When you have cleaned or replaced the filter, you can reset the dirt filter indicator:

- For the reset, *first* disconnect the ventilation unit by removing the plug from the wall socket, wait 15 seconds and then reconnect the unit by plugging it back into the wall socket.

You then have 10 minutes to reset the filter indication as shown below.

For the ventilation unit with an earthed plug:

- Wireless control switch: Simultaneously press two adjacent buttons on the control switch.
- Wireless $_{CO2\ sensor}$ or RH sensor: When the status LED flashes orange, first activate the sensor by pressing the touch button for 5 seconds. Then press the touch button between 5 and 7 seconds until the orange flashing stops and the status LED flashes green 3 times briefly.
- Spider Climate Thermostat: When the Spider Climate Thermostat is activated, the message Replace filter appears. The orange filter symbol and the Service button light up continuously. Within 10 minutes of activating the Spider Climate Thermostat, press and hold the Service button (approx. 5 seconds) until the message Replace filter disappears.

For the ventilation unit with a Perilex plug:

- Wired switch: Turn the wired control switch 4 times to another position, each time with a 6-second interval.
- Wireless control switch: Simultaneously press two adjacent buttons on the control switch.
- Wireless $_{CO2\ sensor}$ or RH sensor: When the status LED flashes orange, first activate the sensor by pressing the touch button for 5 seconds. Then press the touch button between 5 and 7 seconds until the orange flashing stops and the status LED flashes green 3 times briefly.
- Spider Climate Thermostat: When the Spider Climate Thermostat is activated, the message Replace filter appears. The orange filter symbol and the Service button light up continuously. Within 10 minutes of activating the Spider Climate Thermostat, press and hold the Service button (approx. 5 seconds) until the message Replace filter disappears.

ä Warning!

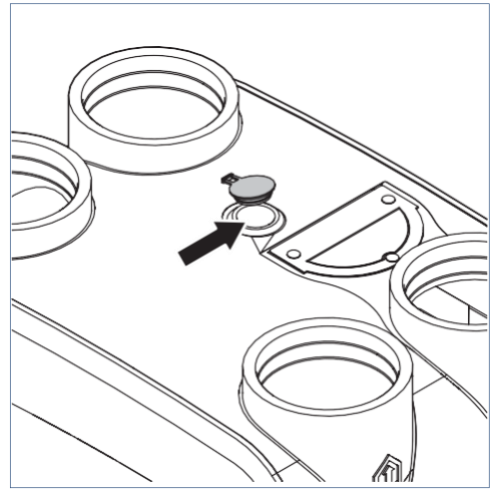
The HRU ECO 350 must be fitted with the appropriate ID filters at all times! Without filters, the unit can suffer irreparable damage.

4.3. Cleaning mosquito filter

The mosquito filter must be cleaned once a year. This can be done by the user himself.

a) Remove the plug from the wall socket or de-energize the ventilation unit.

b) Remove the yellow cap on the top of the ventilation unit.



c) Then insert the hose of the hoover into the hole and turn the hoover on. In this way, any mosquitoes and other contaminants will be removed by the hoover.

d) Replace the yellow cap.

e) Put the HRU ECO 350 back into operation by plugging the plug back into the wall socket.

4.4. Inspection/Cleaning valves

Check the valves regularly (approximately once every 3 months) for contamination. If soiled, clean the valves.

ä Attention!

Pay attention to protruding duct sections when removing or replacing valves and gratings. These can be very sharp!

ä Attention!

When cleaning, do not adjust the setting of the valves and put the valves back in the duct of origin.

Clean the valves as follows.
In case of slight soiling, wipe the valves with a slightly damp cloth. If necessary, use a solution of a mild detergent such as washing-up liquid or all-purpose cleaner. In case of strong adhesion of dirt, remove the valves completely from the canal.

a) Remove the foam sealing tape.
b) Completely immerse the valves in a solution of a mild detergent (e.g. dish soap or all-purpose cleaner). If necessary, the valves can be cleaned in the dishwasher.
c) Remove the valves with a cloth or soft brush.
d) Dry the valves. Place the foam sealing tape back on the valve.
e) Place each valve back into the duct of origin.

4.5. Maintenance wireless control

The wireless control switch is powered by a battery. Under normal use, the battery has an expected service life of about 7 years. When the battery is empty, the control switch no longer functions and the ventilation unit no longer responds to manual operation. The battery (type CR2032 3V) must then be replaced. Incorrect placement of the battery can cause damage to the product. The batteries must not be exposed to excessive heat such as direct sunlight, fire, etc. The batteries must not be exposed to excessive heat, such as direct sunlight, fire, etc. It is not necessary to register the control switch again.

5. Malfunctions

The tables below provide an overview of possible malfunctions and their solutions. As a user, you may be able to correct some faults, but others do not. For faults that you cannot solve yourself, please contact the installer.

The status LED on the ventilation unit flashes orange	
Cause	Solution
(a) The ventilation unit shall detect the need to clean or change the filters.	• Clean or replace the filters. See Inspecting, cleaning/replacing filters on page 18. • Then reset the dirt filter indicator. See above: Resetting the dirt filter indicator on page 19 .

The status LED on the ventilation unit flashes 1x red and 1x orange.	
Cause	Solution
(a) The ventilation unit detects that the exhaust fan has a fault.	• Check that the drain fan is properly connected. Connect the fan properly. • Check fan for dirt and clean if necessary. • Check the fan for defects and replace if necessary.

The status LED on the ventilation unit flashes red once and orange twice.	
Cause	Solution
a) The ventilation unit detects that the supply fan has a fault.	• Check that the supply fan is properly connected. Connect the fan properly. • Check fan for dirt and clean if necessary. • Check the fan for defects and replace if necessary.

The status LED on the ventilation unit flashes 2x red and 2x orange.	
Cause	Solution
a) The ventilation unit detects an error in the drain temperature sensor.	• Check that the sensor is properly connected. Connect the sensor correctly. • Check the sensor for defects. Replace when necessary.

The status LED on the ventilation unit flashes 2x red and 3x orange.	
Cause	Solution
a) The ventilation unit detects that the supply temperature sensor has a fault.	• Check that the sensor is properly connected. Connect the sensor correctly. • Check the sensor for defects. Replace when necessary.

The status LED on the ventilation unit flashes 3x red and 1x orange.	
Cause	Solution
a) The ventilation unit detects that the sensor has a fault.	• Check that the sensor is properly connected. Connect the sensor correctly. • Check the sensor for defects. Replace when necessary.

The status LED on the ventilation unit lights up green (6 sec) and flashes orange once.	
Cause	Solution
a) Frost mode is active.	• This is not a malfunction. As soon as the temperature rises above zero, the unit returns automatically. to normal operation.

The status LED on the ventilation unit lights up green (5 sec) and flashes orange twice.	
Cause	Solution
a) The bypass mode is active.	• This is not a malfunction. The unit goes automatically back to normal operation.

Both fans are no longer running	
Cause	Solution
a) The plug of the ventilation unit is not plugged into any socket outlet.	• Plug the plug into a wall socket.
b) There is no voltage at the socket outlet.	• Restore the voltage at the wall socket. • Use a different wall socket.
c) The fuse on the circuit board is defective.	• Replace the fuse.
d) The printout of the ventilation unit is defective.	• Replace the PCB and feed the Commissioning procedure again.

The drain fan (bottom) is no longer running	
Cause	Solution
(a) The fan connector is loose or incorrect connected.	• Place the fan connector on the correct connection of the circuit board.
b) The fan is running on/stable due to extreme contamination.	• Clean the fan impeller. Please visit on the balancing clamps.
(c) The fan is defective.	• Replace the fan.
d) The printout of the ventilation unit is defective.	• Replace the PCB and feed the Commissioning procedure again.

The supply fan (top) is no longer running	
Cause	Solution
(a) The fan connector is loose or incorrect connected.	● Place the fan connector on the correct connection of the circuit board.
(b) The frost regime is active.	● If the outside temperature becomes extremely low, the fan is switched off to prevent the changer from freezing. When the outside temperature is sufficient If the fan rises, it will start running again.
c) The fan is running on/stable due to extreme contamination.	● Clean the fan impeller. Please visit on the balancing clamps.
(d) The fan is defective.	● Replace the fan.
e) The printout of the ventilation unit is defective.	● Replace the PCB and feed the Commissioning procedure again.

The ventilation unit makes noise	
Cause	Solution
a) The fan is running on/stable due to extreme contamination.	● Clean the fan impeller. Pay attention to the balancing clamps.
b) The fan is not (or no longer) balanced.	● Replace the fan.
c) The ventilation unit is mounted on a wall/ceiling/floor with insufficient load-bearing capacity.	● If the ventilation unit can no longer be moved, try to move it by means of wall/ceiling/floor vibration dampers. decoupling.
(d) The channels are not properly connected to the unit.	● Check the connections and make sure that there are fixed ducts on the wall/ceiling/floor. braced.
(e) The bypass valve activates (rattling sound).	● The bypass valve runs against the stop during the self-test after the voltage has been switched on. Wait 30 seconds and check that the sound has stopped. ● Inspect the valve. Clean it if it gets dirty. Replace the valve if there is any other cause.

The ventilation unit does not (no longer) respond to the RF controls	
Cause	Solution
a) The battery of the RF control is empty.	● Replace the battery.
b) The RF control has not (no longer) logged on to the ventilation unit.	● Restart the commissioning procedure and log on the RF control.
(c) The distance between the ventilation unit and the RF control is too great or the signal encounters too many obstacles.	● Please try to register again. If this does not work, move the RF control to a place where there are fewer obstacles. experienced.
(d) The brand names of the RF control and the ventilation system. unit do not match.	● Replace the RF control with one of The same brand as the ventilation unit.
e) The printout of the ventilation unit is defective.	● Replace the PCB and feed the Commissioning procedure again.

When the low mode is activated, the fan starts running in the high mode/when the high mode/the low mode is activated, the fan starts running in the high mode/when the high mode/the low mode is activated. timer mode is activated, fan starts running in low mode	
Cause	Solution
(a) A temperature sensor of the ventilation unit itself is defective.	• Replace the defective temperature sensor.

The fan suddenly turns much faster or softer (for no apparent reason).	
Cause	Solution
(a) The RF control of an adjacent dwelling has been logged on to *this* fan.	• Disconnect the ventilation unit from the power supply for 15 seconds. Log off an already logged on RF control (and sensors) and log it off. (and sensors) on again.

The ventilation unit does not respond to the 3-position switch	
Cause	Solution
a) The plug of the ventilation unit is not plugged into a wall socket.	• Plug the plug into a wall socket.
b) There is no voltage at the socket outlet.	• Restore the voltage at the wall socket. • Use a different wall socket.
c) The switching wires of the 3-position switch are Mounted incorrectly.	• Connect the switching wires to the correct way (see connection diagram).
d) The printout of the ventilation unit is defective.	• Replace the PCB and feed the Commissioning procedure again.

The ventilation unit is leaking water	
Cause	Solution
a) The condensate drain is not connected.	• Connect one of the two condensation drains.
(b) The condensate drain is blocked.	• Unplug the condensation drain and try the cause to be found.

Channels to the outside are wet (on the outside) and/or leaking water	
Oorzaak	Solution
a) The ducts to the outside are not thermally and vapour tightly insulated.	• Make sure that the ducts that go outside are thermally and vapour tightly insulated along their entire length.
b) No rain- and vapour-tight roof penetration has been used.	• Replace the existing roof penetration(s) with rain- and vapour-tight penetration(s).

The valves make sound	
Oorzaak	Solution
a) No sound attenuating hose has been installed in the ducts to the dwelling.	• Mount sound-absorbing hoses on the ducts that go to the house.
(b) The valves are not properly adjusted.	• Put the ventilation unit in the commissioning position and regulate the system. back in.

The air quality in the dwelling is not good/there is regularly no supply or extraction of air to or from the dwelling	
Cause	Solution
(a) One or both filters are dirty or clogged.	● Clean or replace dirty/clogged filters.
(b) The valves are dirty/clogged.	● Clean the valves.
(c) The valves are not properly adjusted.	● Put the ventilation unit in the commissioning position and regulate the system. back in.
d) The fan is not running (anymore).	● See 'The fan is no longer running'.

Cold air is fed into the house	
Cause	Solution
(a) The filter in the exhaust air is clogged.	● Clean or replace the filter in the air outlet.
(b) The valves are not properly adjusted.	● Put the ventilation unit in the commissioning position and regulate the system. back in.
(c) The bypass valve is incorrectly in bypass mode.	● Clean the bypass valve if it is dirty. ● Replace the bypass valve in its entirety if it no longer functions.
(d) One of the temperature sensors is defective.	● In the event of a defective supply air temperature sensor: replace the wiring harness with the temperature sensor in the motor module. ● In the event of a defective exhaust air temperature sensor: replace the entire bypass module.

6. Warranty

All Itho Daalderop products come with a standard two-year manufacturer's warranty. Within this period, the product or parts thereof will be repaired or replaced free of charge.
Provisions and exclusions are included in our guarantee conditions.

See the product page on our website for full warranty terms and/or additional warranty terms or conditions.

If there are any problems with the operation of our product, we advise the consumer to first consult the manual. If the problems persist, contact the installer who installed the product or the Itho Daalderop service department. The contact details can be found at the end of the manual or on our website www.ithodaalderop.nl.

7. Statements

EC Declaration of Conformity | EC Declaration of Conformity

Itho Daalderop Group BV PO
Box 7
4000 AA Tiel
Netherlands

Declare that the product | Declares that the product :

- Ventilation unit with heat recovery HRU ECO 350 LR
- Ventilation unit with heat recovery HRU ECO 350 HR
- Ventilation unit with heat recovery HRU ECO 350 LP
- Ventilation unit with heat recovery HRU ECO 350 HP

Complies with the provisions laid down in the directives | 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 Directive (EMC) 2014/30/EU
- Directive establishing a framework for the setting of ecodesign requirements for energy-related products 2009/125/EC
- Directive on the indication by labelling and standard product information of the consumption of energy and other resources by energy-related products 2010/30/EU
- 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

Complies with the harmonised European standards | Replies to the harmonised European standards | Complies with the harmonised European standard :

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

CE

Tiel, 1 July 2017.

Coen Schut, Innovation Manager Ventilation

Netherlands

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Consult your installer if you have any questions.
If you do not know the installer, please visit
www.ithodaalderop.nl/dealerlocator.

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