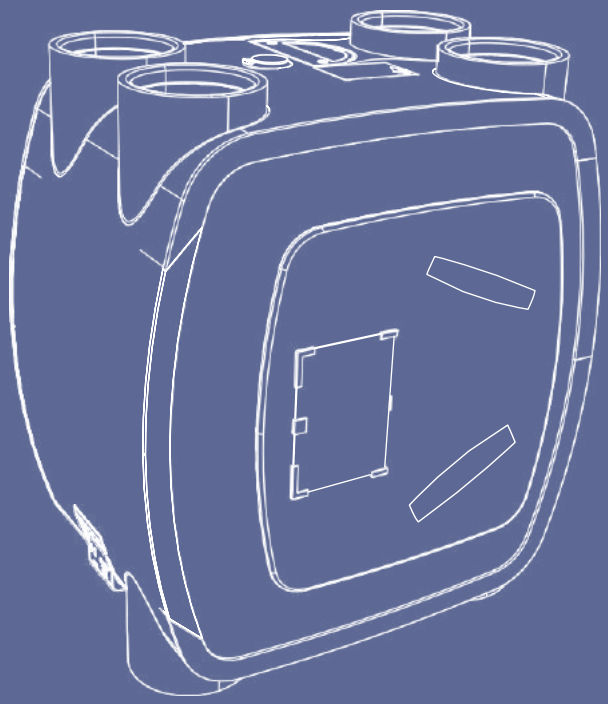
Itho Daalderop
HRU ECO 350

A

Installation manual



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Climate for life

Original document.

Foreword

This manual is intended for the installer of the ventilation system. It contains important information about installation, use, maintenance and malfunctions of the ventilation system.

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.

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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.
- Never switch off the product unless when:
  - The product does not function properly.
  - You want to clean the product.

- Wants to carry out maintenance on the appliance.
- The government advises closing windows and doors in the event of a calamity.

- 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 certified 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.

1.2. Standards and guidelines

ä Warning!

The specifications and settings of the appliance only comply with the standards and laws of the country in which the appliance is sold.
Applications outside this country can lead to very dangerous situations!

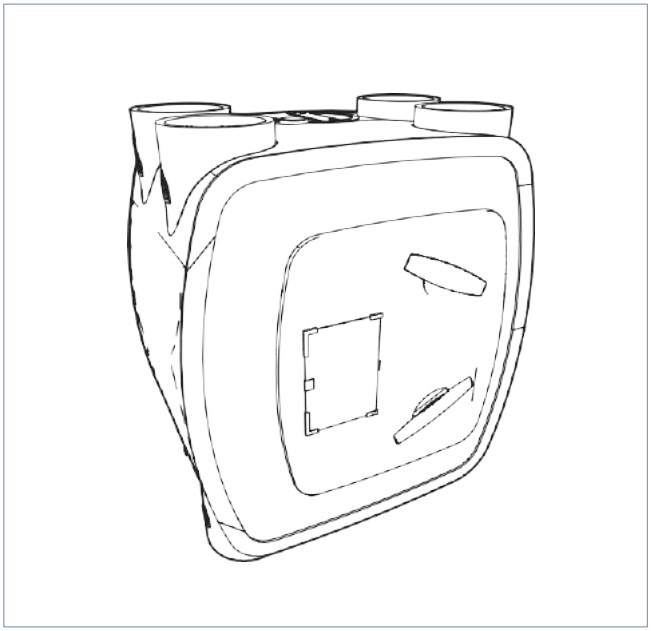
The installer must ensure that the entire installation complies with the legal requirements, the regulations contained in this document and other applicable documentation from the manufacturer.

All legal requirements and regulations are subject to additions, amendments or legal requirements that came into force later apply at the time of installation.

After installation, there must no longer be any health, safety or environmental risks in accordance with the applicable CE directives. This also applies to other products included in the installation.

2. Product information

The HRU ECO 350 consists of a central balance ventilation unit with heat recovery, a mounting set and a condensate drain connection.



2.1. Versions

Versions HRU ECO 350		
Article	Type	Description
03-00389	HRU ECO 350 LR	Balance ventilation unit with Heat recovery; RF; low buildings application; earthed plug
03-00390	HRU ECO 350 LP	Balance ventilation unit with Heat recovery; RF; low buildings Application; Perilex plug
03-00391	HRU ECO 350 HR	Balance ventilation unit with heat recovery; RF; high-rise buildings application; earthed plug
03-00392	HRU ECO 350 HP	Balance ventilation unit with heat recovery; RF; high-rise buildings Application; Perilex plug

2.2. 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 control - 230 V fed
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-absorbing flexible hose, Ø 180 mm, length 50 cm
591-1270	FGD 180-100	Sound-absorbing flexible hose, Ø 180 mm, length 100 cm
591-1050	FGD 152-50	Sound-absorbing flexible hose, Ø 152 mm, length 50 cm
591-1250	FGD 152-100	Sound-absorbing flexible hose, Ø 152 mm, length 100 cm
04-00089	OPTIMA 2 SET	Optima 2 set (2x CO2+ RFT AUTO)
63-00004	OJ 600I	PureBlue Induct 600 air purifier

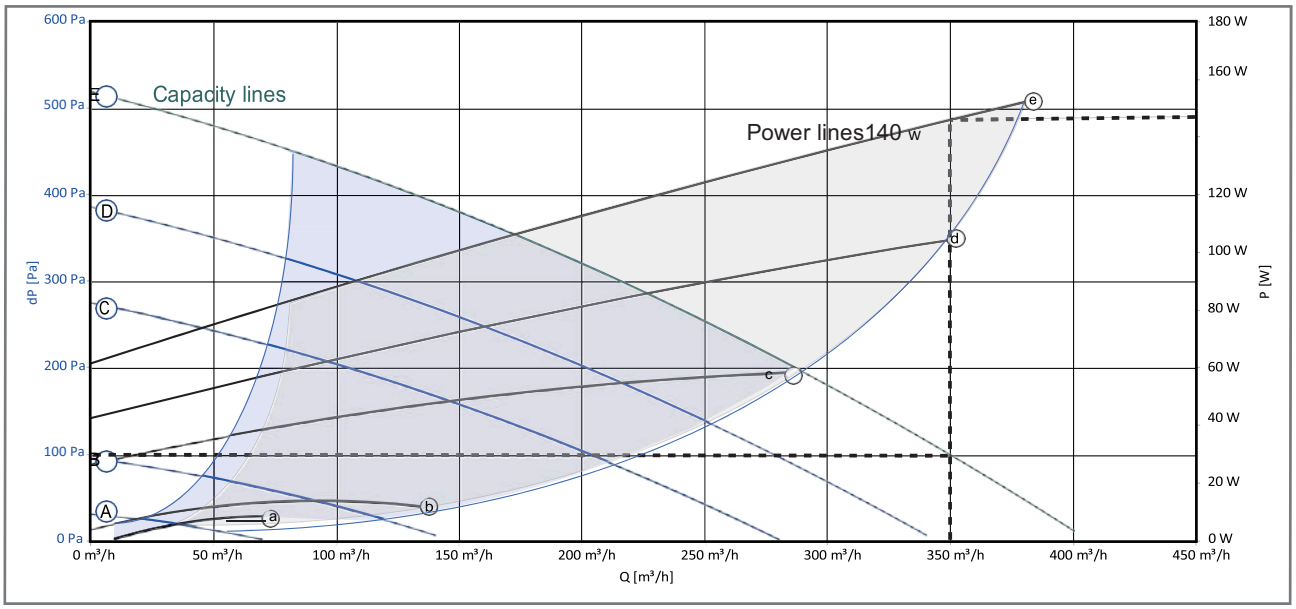
2.3. Technical data

Description	Symbol	Unit	HRU ECO 350	
			LR / HR	LP / HP
DIMENSIONS AND WEIGHT				
Dimensions (HxWxD)	—	mm	848 x 730 x 479	
Weight	—	kg	24	
CONNECTIONS				
Channel connections top side	—	mm	4x Ø 150 internal/Ø 180 external	
Duct connection underneath	—	mm	2x Ø 150 internal/Ø 180 external (to/from home)	
Drainage of condensation	—	mm	Ø 40 mm external	
GENERAL				
IP classification	—	—	IP21	
Safety class			Double insulated	
Installation class			II	
Filter class	—	—	Standard G3	
RF (integrated)	—	—	30 m free field, 868 MHz	
Supply voltage	—	—	~ 230V - 50Hz (+/- 10%)	
Power connection	—	—	3-core mains cable with protective earth plug	5-core power cable with Perilex-plug
TECHNICAL PARAMETERS				
Thermal efficiency of heat recovery	ηt	%	94	
Electrical input power of the fan drive, at maximum flow rate	—	W	145	

ä Warning!

Never connect the appliance with an extension cord!

2.4. Capacity chart

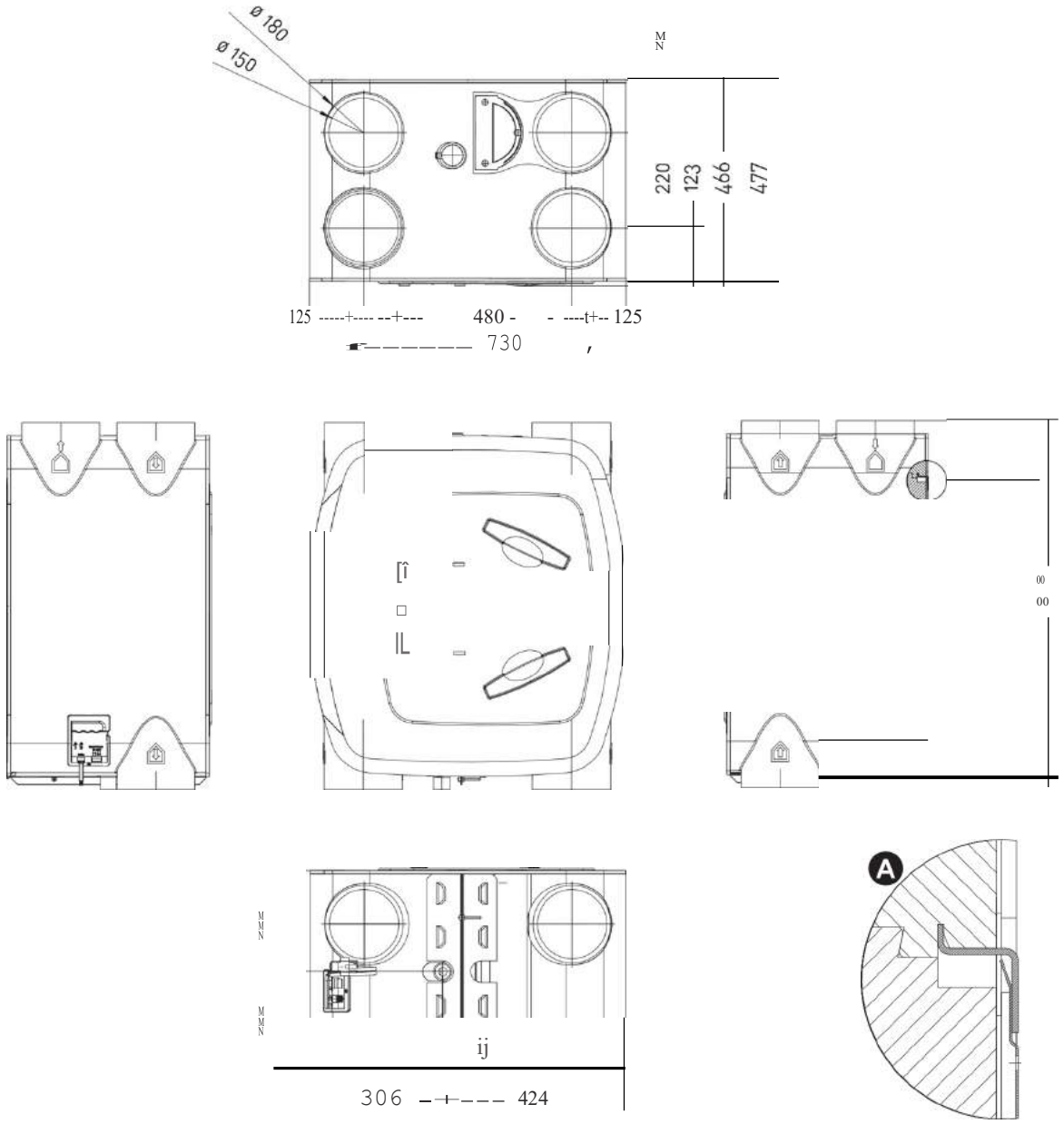


2.5. Capacity

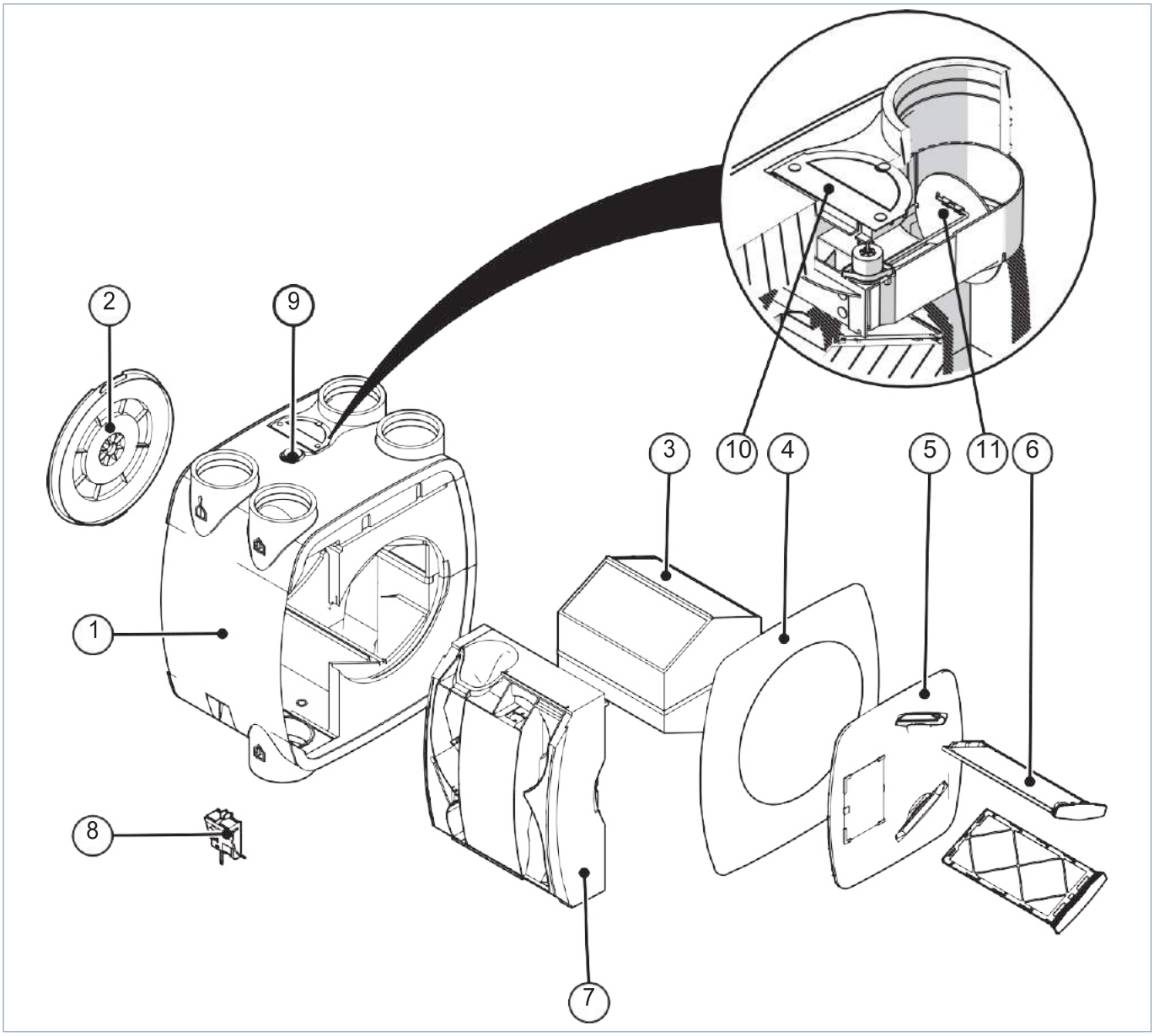
		Line graph	Capacity Q [m3/h]	Pressure dP [Pa]	Power P [W]	Sound power radiated (LwA) dBA	Sound power level Dissipation (LwA) dBA
Position 1	Minimum	A-a	50	14	7,5	30	42
Position 1	Standard		50	14	7,5	30	42
Position 1	Maximum	B-b	100	205	42	49	60
Position 2	Minimum		100	26	12	41	53
Position 2	Maximum	C-c	150	115	39	49	57
Position 3	Minimum	D-d	250	43	57	52	59
Position 3	Standard		250	139	90	56	62
Position 3	Maximum*	E-e	350	100	146	60	65

** Indicated in graph with dotted line*

2.6. Dimension drawings



2.7. Spare parts



Legend

1 Ventilation unit
2 Bayonet rear side
3 Heat exchanger
4 Front panel
5 Front door
6 Filter
7 Engine module
8 Connection cap with control board and power cable
9 Mosquito filter
10 Frost valve
11 Bypass valve

2.8. Schemes

The HRU ECO 350 has as standard a 3-position control where the ventilation flow in the low position and the high position can be infinitely adjusted by means of potentiometers on the unit. In addition, the ventilation unit has a number of automatic controls that operate continuously in the background.

2.8.1. 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 supply air, so that this energy is not lost.

Heat recovery takes place with a very high efficiency.

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.

2.8.2. 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.

2.8.3. Vorstregeling

The purpose of the frost control is to prevent the heat exchanger from freezing and to prevent ventilation.

If the temperature of the supply air in the heat exchanger gets too close to freezing point, the unit will regularly open the frost flap at the top of the unit and draw in warm room air. This warm room air is mixed with the drawn in cold outside air. At the same time, the supply fan starts to turn harder (the fan is speeded up so that the amount of fresh outside air remains the same). Because the fresh cold outside air is pre-heated, the warm extracted air from the house does not have to heat the cold freezing air as much. The automatic control keeps the temperature of the supply air in the heat exchanger safely above freezing point.

Should the outside temperature drop even further, the supply fan will turn softer (the fan will be turned down to a minimum).

If the temperature continues to drop, the drain fan will increase and the supply fan will continue to run at a minimum.

If the outside temperature becomes extremely low, the supply fan will be switched off, but the exhaust 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 frost hazard is now gone.

If the outside temperature rises, the above measures are carried out in reverse order until the danger of frost has passed. The resident 'always' determines the discharge air quantity.

2.8.4. 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 (Filter ISO Coarse ³45%).
  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 (Filter ISO Coarse ISO 65%.).
  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 (Filter ISO ePM2.5 70%).
  In addition to the coarser dust particles, this fine filter also stops finer dust particles (pollen). Especially people with allergy complaints, who are sensitive to this, can benefit from this.

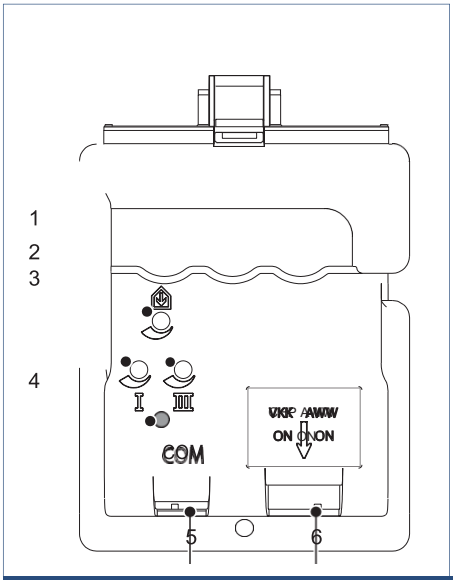
Over time, the filters will become dirty, which will reduce the capacity of the ventilation unit. It is therefore necessary that the filters are cleaned according to the instructions and eventually replaced.

ä Warning!

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

2.8.4.1. 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. Check the LED on the ventilation unit. If it flashes, the filter needs to be cleaned or replaced.

2.8.4.2. 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 CO_2 sensor, and RH sensor (if connected). The status LED on the sensor then flashes orange at 1 Hz. After cleaning or changing the filter, reset the counter, see Resetting the Dirty Filter Indication on page 30.

2.8.4.3. 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 30.

2.8.4.4. Status LED

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

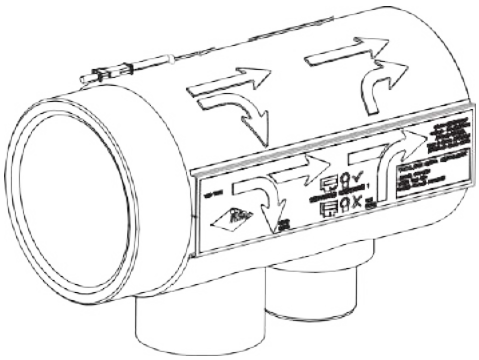
Pattern		Function
Green	Orange	
Flashes 1x/s	Flashes 1x/s	Identification
Flashes 1x/s		Login mode
Burns 6 s	Flashes 1x/s	Frost mode
Burns 5 s	Flashing 2x/s	Bypass mode
Brandt		Normal operation
Pattern		**Function**
Red	Orange	
Flashes 1x/s	Flashes 1x/s	Error drain fan
Flashes 1x/s	Flashing 2x/s	Error 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

2.8.5. Ventilation Coupling VKK

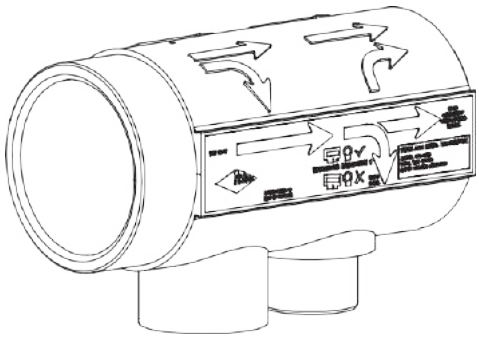
With the coupling type VKK and VKK-HB it is possible to connect the HRU ECO 350 to the Remeha HR combi boiler the Avanta. The purpose of the coupler is to simplify the ducting system between the HRU ECO 350 and the boiler. Both the ventilation installation and the boiler need a supply and an exhaust duct to and from the outside. The VKK coupler combines the outlet of the ventilation installation with the supply and outlet of the boiler (2 duct system).

For example, only a supply and exhaust duct is required for the ventilation system (up to 12 floors).

The coupling type VKK-HB (up to 40 storeys) combines the air outlet of the ventilation system with the air supply of the boiler. Both have a separate exhaust system (3-channel system).



VKK coupler-HB



VKK coupler

ä Attention!

If a VKK or VKK-HB coupling is installed, this must be set on the ventilation unit!

See above: Dipswitch settings on page 22.

3. Installation

3.1. Installation requirements

Please take the following into account before installing the system:

- Mount the ventilation unit
  - in a closed set-up room (where the system can cause as little noise nuisance as possible).
  - in an installation room that is frost-free.
  - in the vicinity of a socket outlet 230 V, 50 Hz (for Euro plug or Perilex plug, depending on the type); the length of the power cable is 1.5 m.
  - in the vicinity of a siphon with connection to the sewerage system (for connection of the condensation drain).
  - in such a way that it remains accessible for service and maintenance.
  - on a wall with sufficient load-bearing capacity (min. 200 kg/m2).
- The duct system and the drainage and supply points must be correctly dimensioned.
- The correct fastening materials must be present.

ä Attention!

To prevent condensation, the duct coming from outside and the duct going out to the ventilation unit must be insulated thermally and vapour-tight.

Tip

To prevent noise complaints, Itho Daalderop recommends connecting the two ducts coming from the house with silencers.

Tip

When positioning the ventilation unit, take into account that sufficient space is also kept free to provide service. This requires at least 500 mm extra space at the front of the ventilation unit.

3.2. Installing the ventilation unit

3.2.1. Unpacking and checking

a) Carefully take the equipment out of the box.
b) Check the nameplate details and type for correctness as shown on the sticker on the outside of the box.
c) Check the equipment for damage and completeness.
d) Check that the ventilation unit comes with a manual (installation and/or user manual) and the necessary accessories (e.g. condensation drain connection and assembly kit).
e) Place the ventilation unit upright on the ground.

3.2.2. Mounting positions

ä Attention!

Attach the ventilation unit to a concrete surface, not to a wooden or plaster surface or to a surface with insufficient load-bearing capacity (< 200 kg/m2). This leads to noise nuisance.

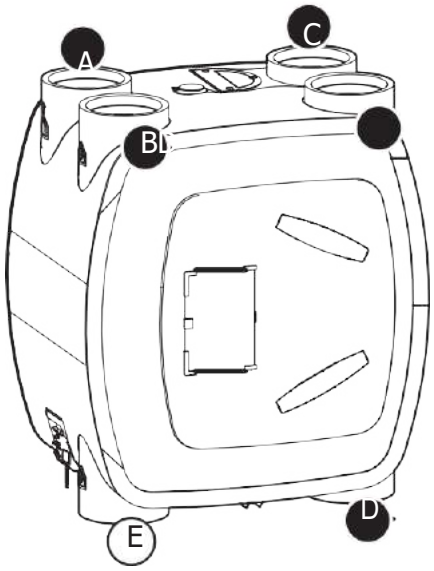
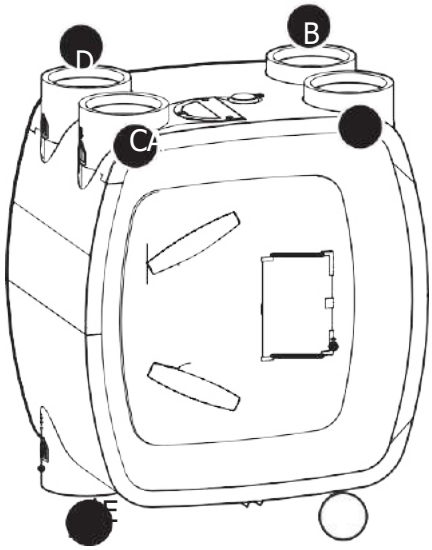
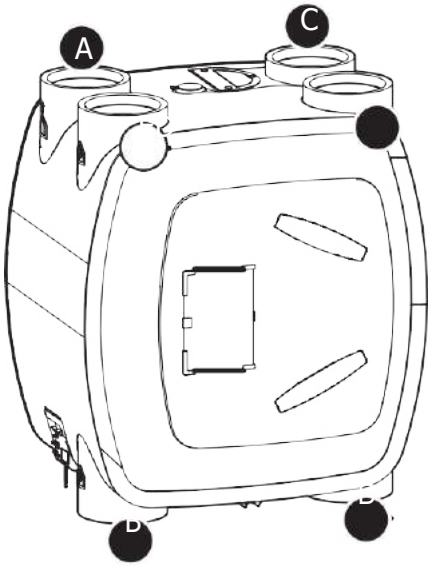
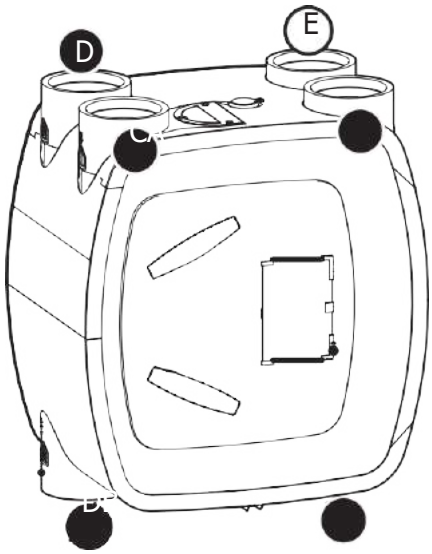
ä Attention!

Always ensure that the ventilation unit is mounted in such a way that the ducts are connected to the correct inlet and outlet openings!

The ventilation unit is mounted on the wall.

Depending on the arrangement of the ducts, the ventilation unit can be mounted to the wall 'standard' (as supplied in the packaging) or 'rotated' (see Conversions for mirrored mounting on page 17).

The pictograms on the side of the duct connections indicate where the ducts of the house are to be connected.

Mounting positions	
High rise 'standard	High-rise 'twisted' (1)
	
Low-rise 'standard	Low-rise 'twisted' (1)
	

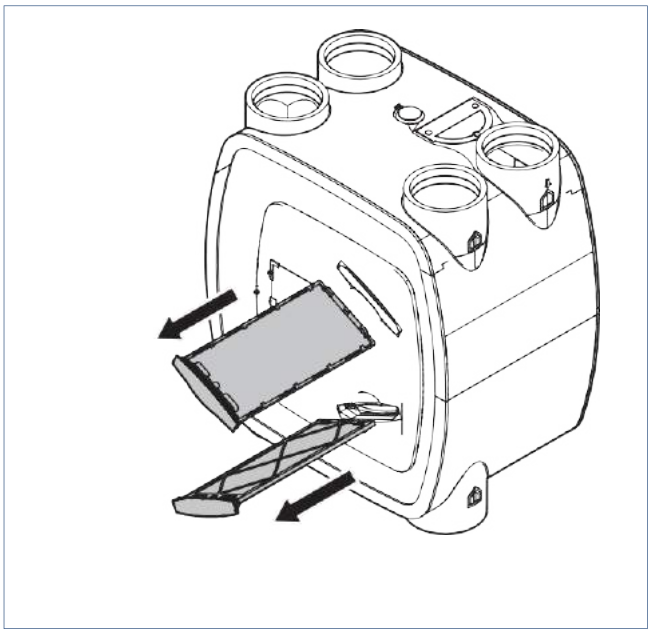
1) See Conversion for assembly.

Legend	
A Exhaust air to the outside	C Supply air from outside
B Supply air to dwelling	D Exhaust air from home
	E Close

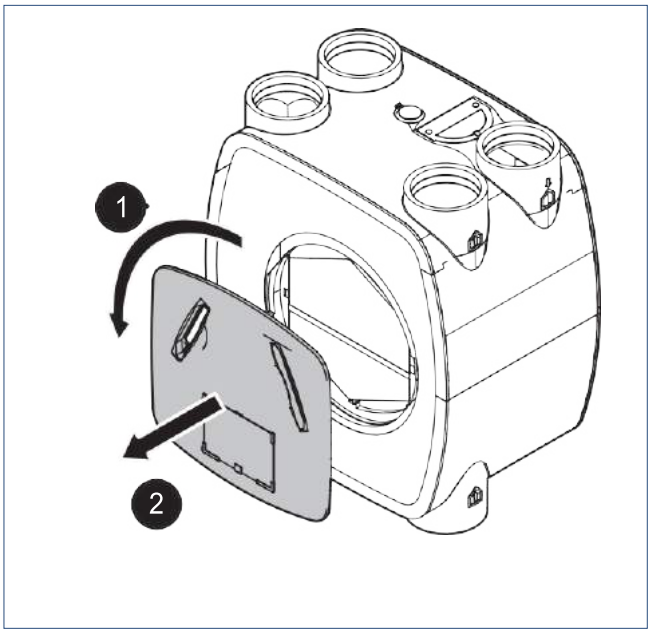
3.2.3. Conversion for mirrored mounting

The HRU ECO 350 comes standard with the motor module on the left side. If it is more convenient for the duct system, the ventilation unit can be 'mirrored' easily and without tools before being mounted on the wall. If it is not necessary to rotate the unit, this section can be skipped.

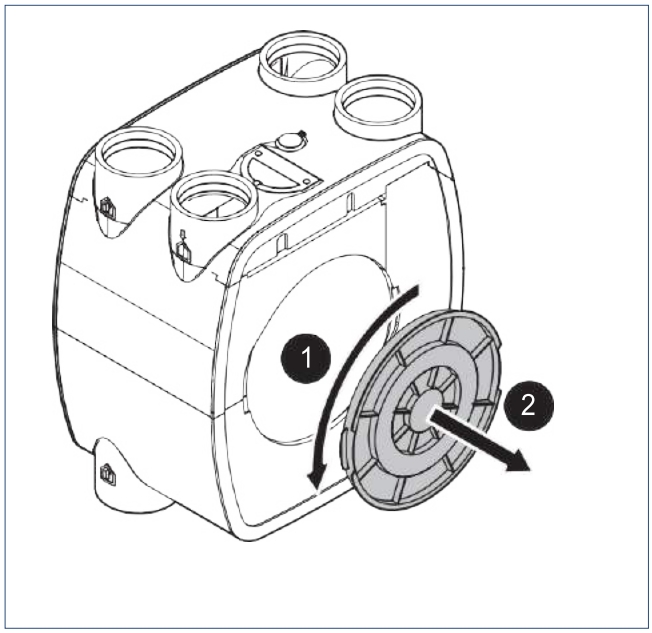
(a) Remove both filter holders.



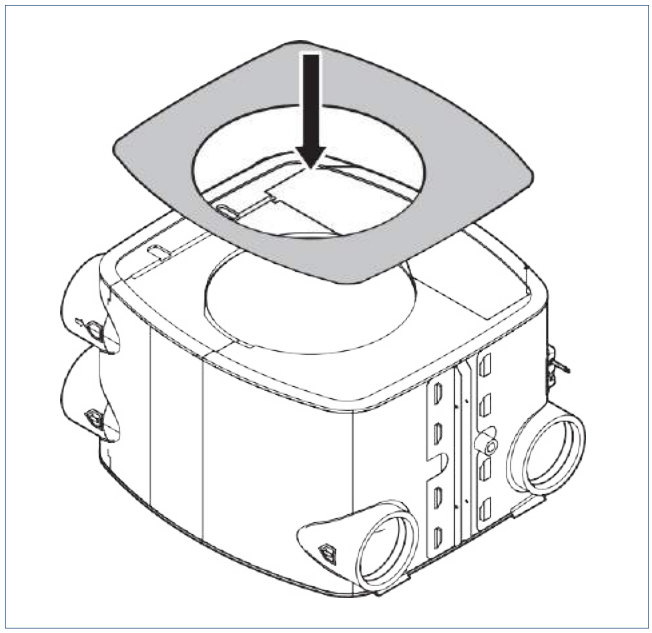
b) Turn the front door with bayonet lock one quarter turn anti-clockwise and remove the front door.



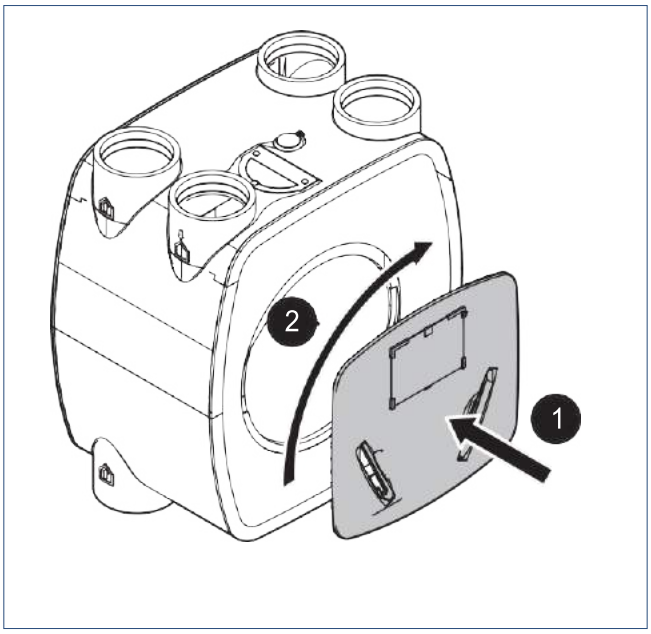
c) Also turn the bayonet at the back one quarter turn counterclockwise and remove the bayonet.



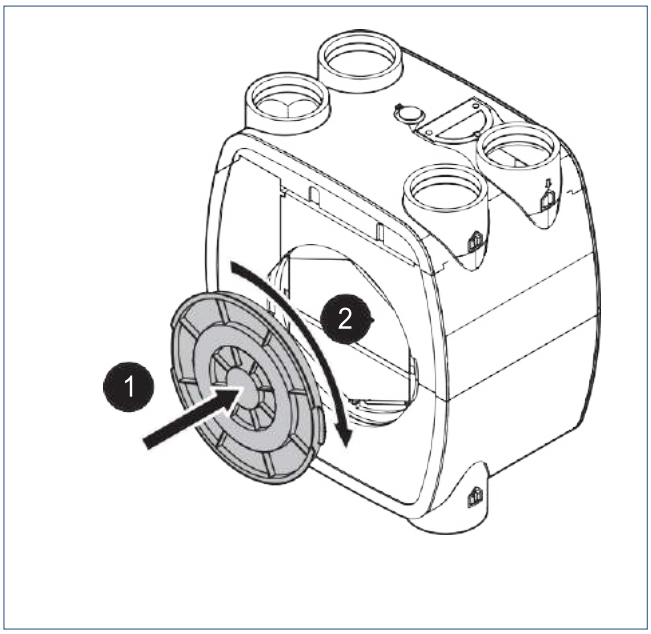
d) Move the front panel upright (without turning it) to the other side and place the front panel by pressing the rim under the black rim of the enclosure.
This is easiest if the ventilation unit lies flat on the ground.



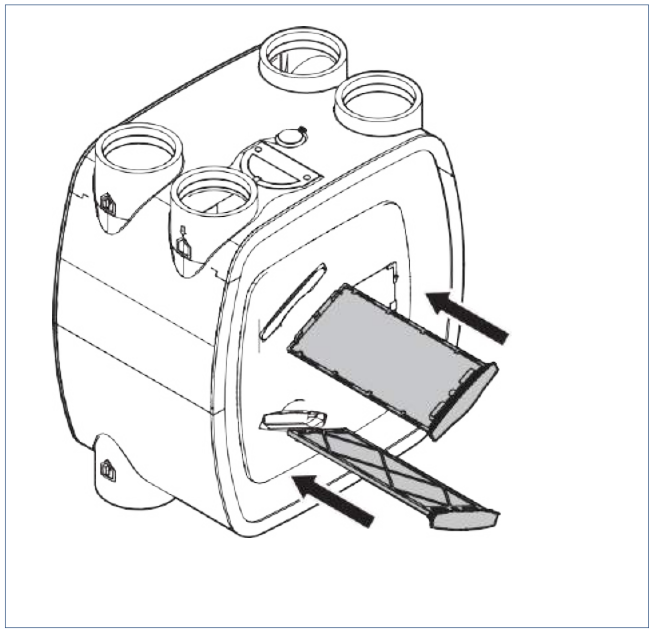
e) Place the front door on the new front as shown. Turn the front door a quarter turn clockwise until it is neatly vertical.
Make sure that the round disc of foam, in the hole against the changer between the door and the changer, is present.



f) Place on the bayonet at the new rear as shown. Turn the bayonet a quarter turn clockwise until the bayonet is secure.
Make sure that the foam disc is between the changer and the bayonet.



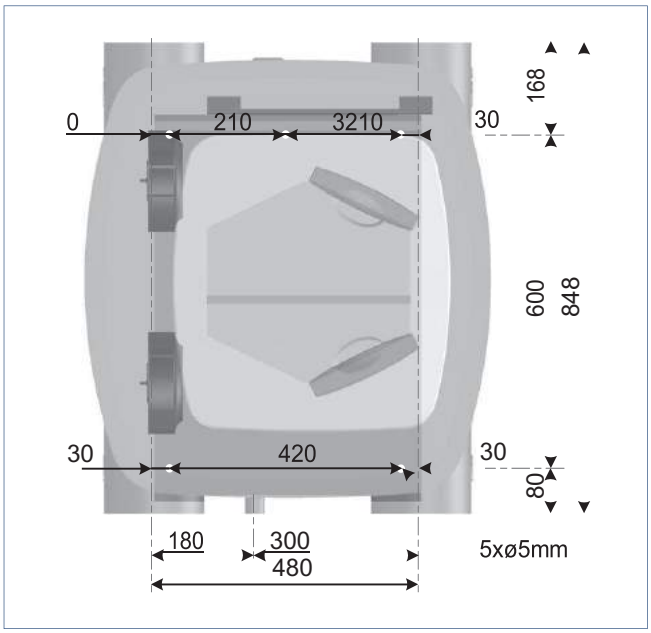
(g) Fit both filter holders.



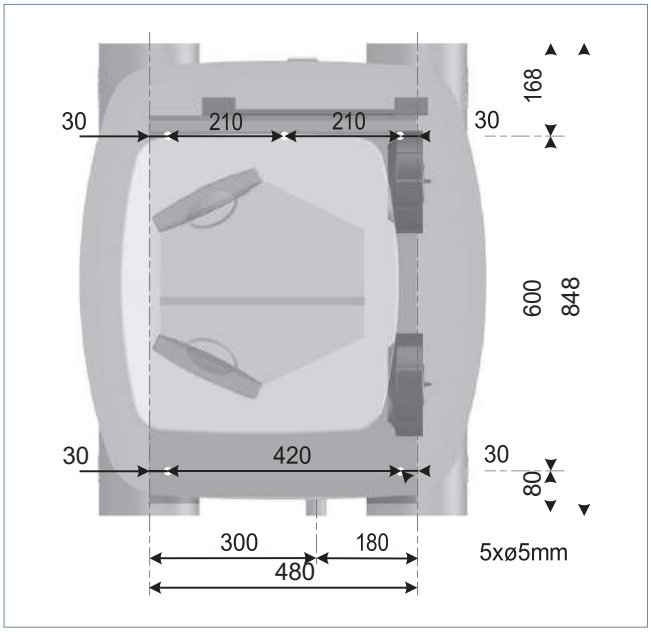
The ventilation unit is now 'mirrored' and ready for further assembly.

3.2.4. Wall mounting

a) Determine the exact location of the unit, taking into account the Installation requirements on page 15.



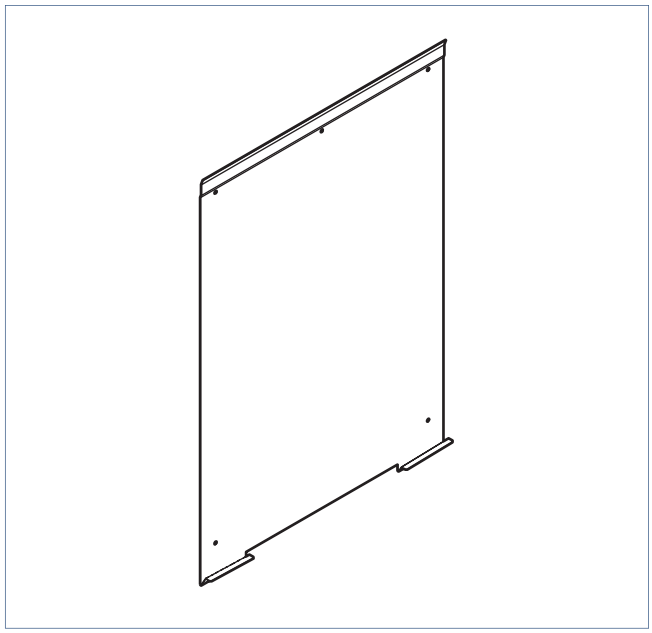
Standard assembly.



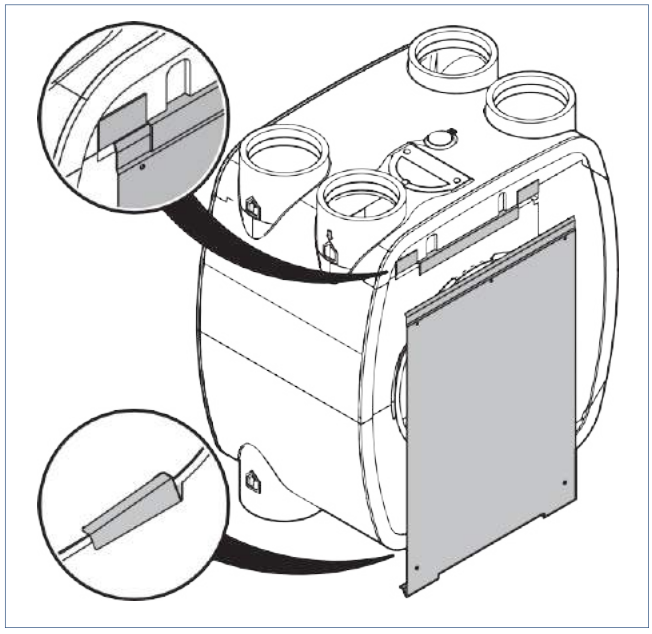
Turned assembly.

The edge of the mounting kit corresponds to the centre line of the ducts. The notch at the bottom of the mounting kit indicates the location of the condensation drain (left for a standard unit and right for a turned unit).

b) Fix the wall plate *level* on the wall using 5 screws (mounting material not supplied).



c) Hang the ventilation unit with the mounting strip on the wall plate. The mounting bracket is already placed in the unit. Make sure that the ventilation unit rests on the supports on the underside of the wall plate.



The sides of the wall plate correspond to the centre lines of the duct connections.

3.3. Connecting condensation drain

ä Attention!

If the ventilation unit is placed outside the thermal shell of the dwelling (for example in an uninsulated attic), the condensation drain must be thermally insulated up to the ventilation unit.

In winter, the exhaust air from the house can condense in the heat exchanger. A condensation drain is integrated in the ventilation unit for this purpose.

ä Attention!

Make sure that the condensation hose is mounted from top to bottom to the drain.

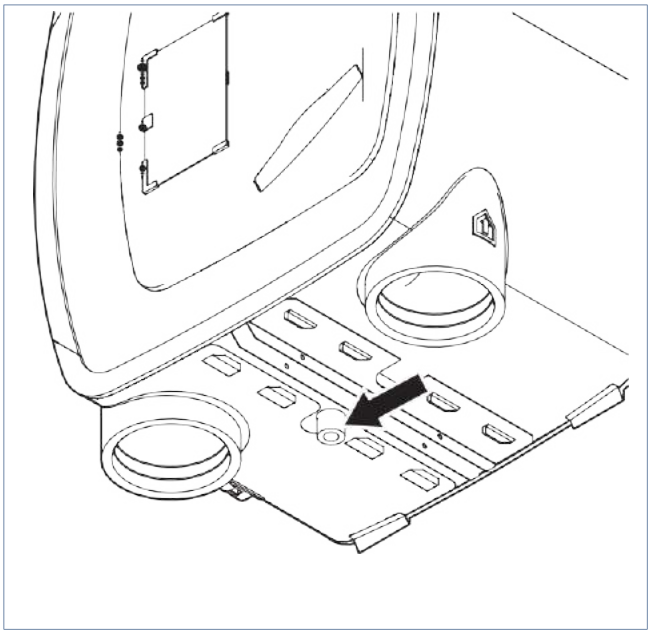
ä Attention!

The condensation hose must not have any sharp bends!

ä Attention!

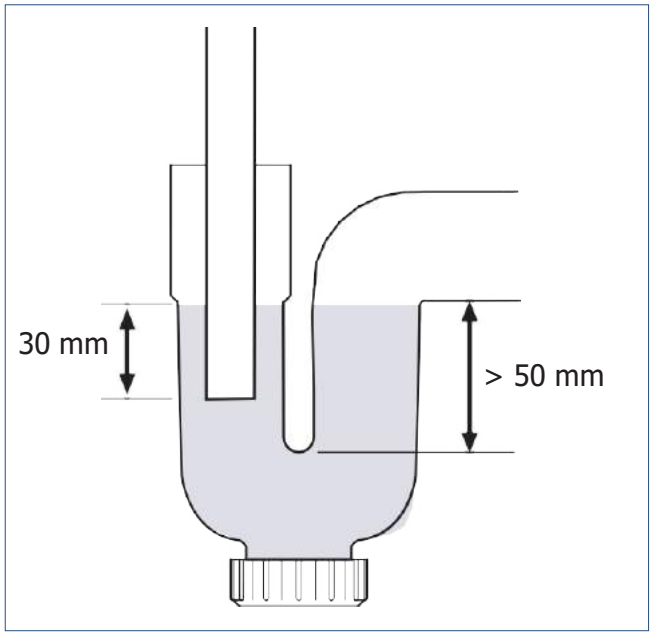
A suitable siphon (horizontal or vertical) must be installed to connect the condensate hose to the condensate drain. For a vertical siphon, the unit must be raised sufficiently with beams.

a) Mount the condensate drain connection (not supplied) on the condensate drain outlet of the ventilation unit.



b) Connect a condensation hose (minimum Ø20 mm inside) to the condensation drain connection.

c) Feed the condensation hose to a siphon capable of creating at least 50 mm of water trap. Insert the hose deep enough into the siphon.



d) Fill the siphon to get a water trap.

ä Warning!

Make sure at all times that the condensation hose sticks into the siphon (at least 30 mm under water) up to EXPLOSURE. Otherwise you will get leaks!

ä Warning!

Always mount the appliance on a wall, never standing on the floor!

3.4. Connecting the channels

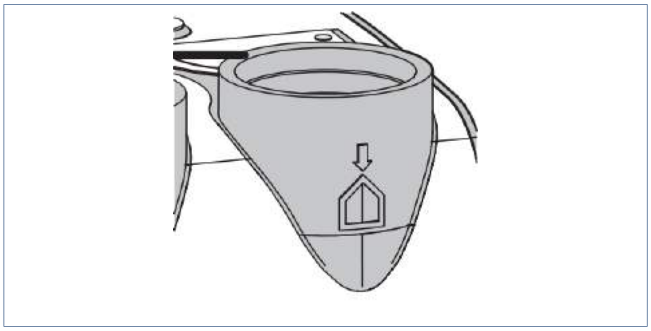
ä Warning!

When using the unit in the stacked construction, return flow to the house from the central exhaust air duct must be prevented at all times. In this case, a mechanical non-return damper must be used in the discharge duct of the unit.

ä Attention!

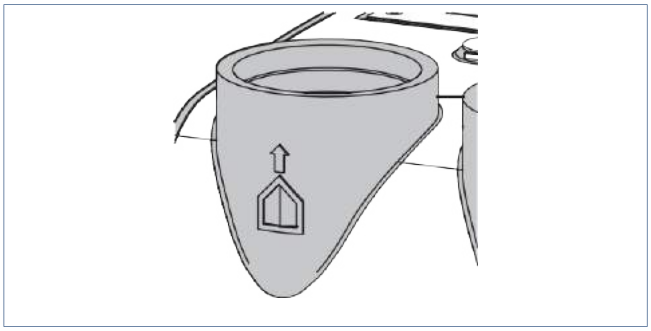
To prevent condensation, the duct coming from outside and the duct going out to the ventilation unit must be insulated thermally and vapour-tight.

3.4.1. Supply air from outside



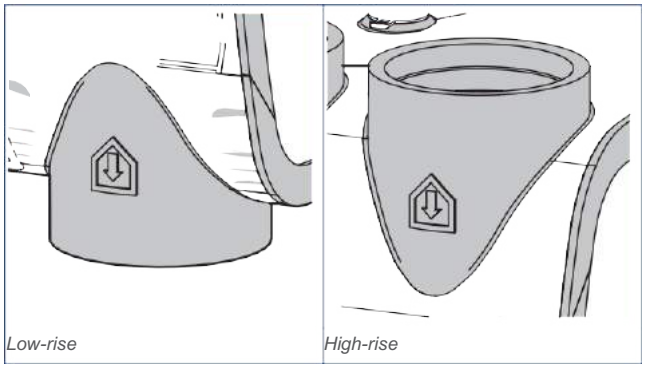
The ventilation unit draws in outside air via this spout. This duct must be thermally and vapour tightly insulated to prevent condensation on the outside of the duct.

3.4.2. Exhaust air to the outside



Via this spout, the ventilation unit discharges the exhaust air to the outside. This duct must be thermally and vapour-tight insulated to prevent condensation on the inside and outside of the duct. It is recommended to use a roof gutter that prevents condensation or rainwater from leaking. If this is not the case, the components of the flue system must be installed watertight between this outlet and the roof gutter. The unit drains any condensation water via the condensation drain.

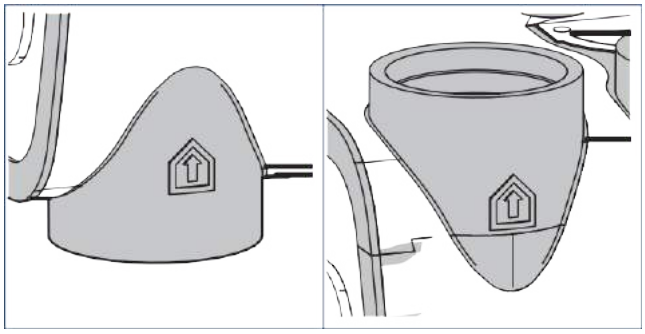
3.4.3. Supply air to dwelling



Low-rise *High-rise*

Via this spout, the ventilation unit feeds the heated air into the house. For optimum comfort it is necessary to install a silencer in this duct.

3.4.4. Exhaust air from dwelling



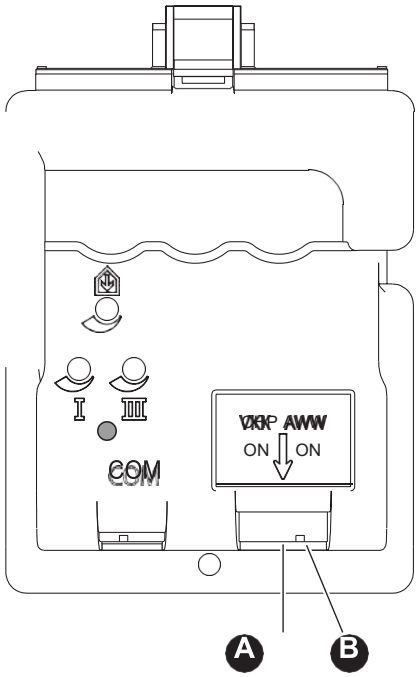
Via one of these spouts, the ventilation unit extracts the exhaust air from the house. In principle, this duct does not need to be thermally insulated. Only if the ventilation unit is placed outside the thermal shell of the house (for example in an uninsulated attic) is it advisable to insulate the duct thermally and vapour-tight.

Note

For optimum comfort it is necessary to install a silencer in this duct.

3.5. Dipswitch settings

The two dipswitches are located on the PCB in the connection cap on the side of the ventilation unit.



VKK dip switch setting

Both the ventilation unit and the boiler need a supply and an exhaust duct to and from the outside. The purpose of the coupler is to simplify the ducting system of the HRU ECO 350 and the boiler.

ä Attention!

The central heating appliance must be suitable for controlling the coupler. For more information, please contact Itho Daalderop.

The VKK coupler combines the exhaust air from the ventilation unit with the supply and exhaust air from the boiler (2 duct system). This means that only a supply and an exhaust duct is required for the ventilation unit (maximum 12 floors).

The VKK-HB coupler (up to 40 floors) combines the air outlet of the ventilation unit with the air supply of the boiler. Both have a separate exhaust system (3-channel system).

If a VKK damper is used the ventilation unit must be set to start the VKK test programme.
The VKK dip switch must be set to ON when a VKK valve is used.

AWW dip switch setting

If a ground source heat exchanger (AWW) is used in the outside air intake duct, the ventilation unit must be set so that the bypass damper opens earlier.
The AWW dip switch must be set to ON when using an AWW.

3.6. Connecting electrically

The ventilation unit can be connected electrically in various ways.

- With an earthed plug.
- With a Perilex plug.

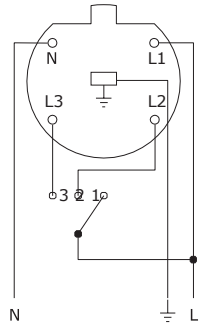
3.6.1. Connecting with protective earth plug

The R-version of the appliance is equipped with an earthed plug. The wired three-position switch cannot be connected to this version. Operation takes place via wireless control switches and/or sensors.

Connect the ventilation unit with the earthed plug to a wall socket.

3.6.2. Connecting with Perilex plug

The P-version of the HRU ECO 350 is equipped with a Perilex plug. Connect the unit to a Perilex wall socket (possibly in combination with a wired 3-position switch) according to the following diagram and table.



	Colour	Booth	Function	Connection
W	green / yellow		earth	mains power
N	blue		zero	mains power
L1	brown	low	permanent phase	mains supply / switch
L2	grey	middle / car	link	switch / unit

4. Operation

4.1. 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.
  Auto-Night position; regulation for the night where the minimum position is increased.
- Stand 3, high level: for when cooking, showering or bathing or when many people are present.

The Auto-Night setting ensures that the minimum ventilation setting is increased so that you are also assured of an optimal climate at night. You can use the Auto-Night stand when you go to bed in the evening. Please make sure that the window grilles are open when using this stand.

To activate the Auto-Night mode, press the Auto-button *twice on* the wireless control switch or select Auto-Night mode on the 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 becomes available when using CO_2 sensors.

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 control or sensor position).

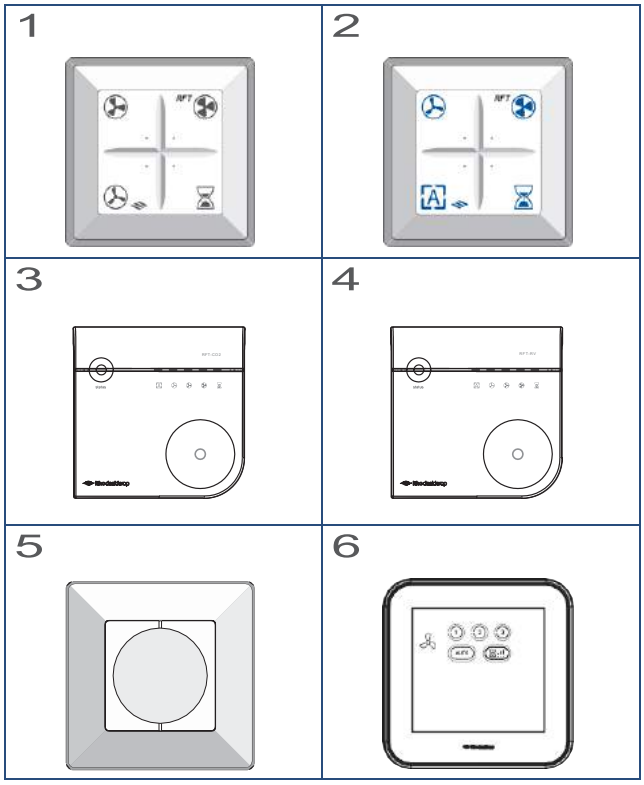
Note

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

Note

The maximum time that the ventilation unit can be in a position other than the automatic position is limited to 24 hours. After this period, the unit switches back to automatic mode.

4.2. 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.

4.3. 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

To log on or off a remote sensor unit, see Logging on and Off of Radio Controls and Sensors on page 24.

4.4. Logging on and off of wireless controls and sensors

4.4.1. 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.

4.4.2. 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. Logging off one control switch automatically logs off *all* wireless accessories.

Note

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

4.4.3. 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.

4.4.4. 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 radio controls on page 24.

Note

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

4.4.5. 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.

5. Commissioning

5.1. Preparation

Prior to commissioning

- The ventilation unit and accessories must be mounted.
- The ductwork must be mounted.
- The condensation drain must be mounted and the siphon filled so that a water trap is present.
- External and internal doors and windows must be closed.
- There must be sufficient flow-through space under the inner doors.
- The adjustable valves must be fully open in *all* rooms.

ä Attention!

Increasing the maximum speed causes more noise and higher energy consumption.

ä Attention!

Before the wireless control switch can be logged on, the ventilation unit must have been de-energized for 15 seconds!

ä Attention!

If the power fails during the commissioning phase, wait at least 2 minutes after the power has been restored! All ventilation units in the immediate vicinity will also be in log-on mode for the first 2 minutes!

Note

Each wireless control must be logged in separately. You can register and commission up to 20 wireless controls.

Note

If you are unable to complete the wireless control log-in within 2 minutes, you can return the ventilation unit to the log-in mode by disconnecting it from the power supply and restarting it after 15 seconds. Operations that have already been logged on will remain logged on to the ventilation unit. During the log-in procedure, the status LED flashes green.

Note

If a VKK coupler or a heat pump is fitted, you will need to adjust the dipswitch settings. See Dipswitch settings on page 22 .

5.2. Commissioning

Go through the following steps to correctly commission the ventilation unit:

a) Make sure that the ventilation unit has been de-energized for 15 seconds.

b) Bring the ventilation unit under tension.

c) Log on the available wireless remote controls according to 'Log on wireless controls' on page 24.

Note

After power-up, the ventilation unit is in log-on mode for 2 minutes. However, during this time the ventilation unit responds to all log-in requests within its range, which means that it is possible that another wireless control or sensor may be logged on to your ventilation unit undesirably. As a result, your ventilation unit responds not only to your own wireless control or sensor, but also to that of an adjacent home.

ä Attention!

If a wireless control or sensor of an adjoining house is unwantedly logged in to your ventilation system, you can solve this by logging out an already logged in control and logging it in again. By logging off one control, all controls and sensors are logged off, including those of the adjoining house.

5.3. Adjusting capacity

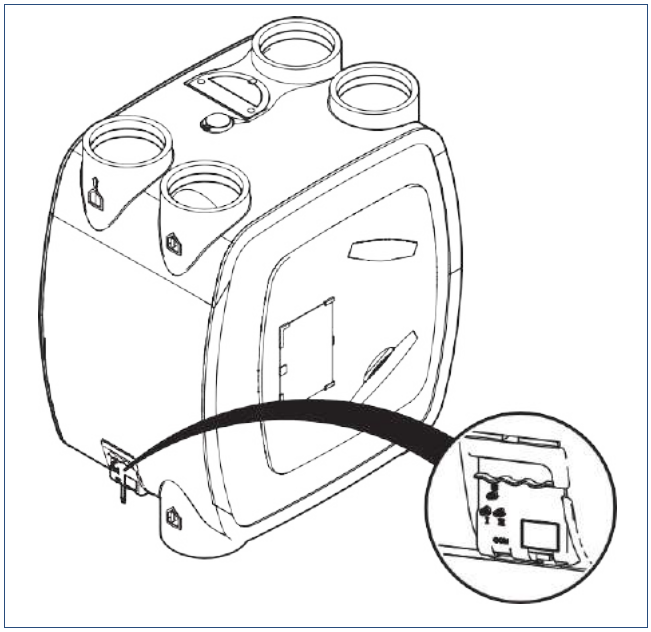
ä Attention!

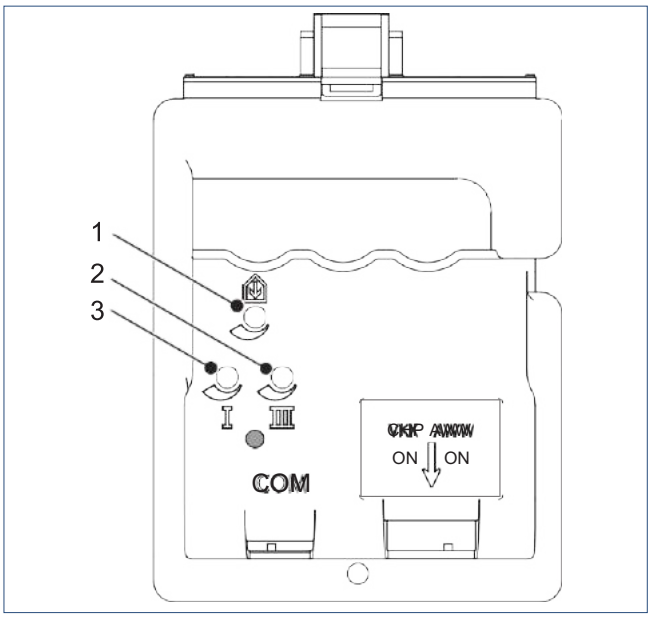
The capacities (high and low position) of the ventilation unit must be adjusted during commissioning!

Note

If the capacity has to be increased, first try to open the air valves further to achieve the required capacity. Increasing the motor speed will result in higher energy consumption and noise levels.

On the side of the ventilation unit there are two potentiometers for adjusting the minimum and maximum capacity (low and high). Whether these capacities need to be adjusted can be seen from the system design calculations or from flow measurements.





Legend

1 Adjusting the balance inlet and outlet
2 High altitude setting
3 Low setting

5.3.1. Adjusting height

If necessary, adjust the height with the right potentiometer. This potmeter is standard set at 275 m3/h. The adjustment range is from 225 to 350 m3/h (at 100 Pa).

5.3.2. Low setting

If necessary, adjust the low setting with the left potentiometer. This potmeter is standard set at 75 m3/h and is limited at the bottom, so that there is never too little ventilation. The adjustment range is 50 to 100 m3/h.

Note

The low and high setting range is such that the maximum capacity of the low setting is equal to the minimum capacity of the high setting. In this case, there is no longer a difference in capacity between the three modes (low, medium and high)!

ä Attention!

Only adjust the potmeter of the elevation with a loaded ventilation unit (connected to a duct system). If you do this with an unloaded ventilation unit ('free blowing'), the power consumption may become too high. This causes the current limitation on the circuit board to act, causing the motor to run irregularly and jerky.

5.4. Adjusting the supply/discharge balance

If necessary, adjust the air balance between supply and return air using the upper potentiometer. By adjusting the potentiometer, the supply fan can be rotated faster or slower in relation to the exhaust fan. This is mainly applied when the resistance of the supply air and the resistance of the exhaust air differ. By reversing the speed of the supply fan (e.g. in the case of a short supply duct with little resistance), you avoid having to squeeze the supply grille too much to create an air balance in the house. This has a positive result in terms of energy consumption and the noise produced. If the potentiometer is in the middle position, the speed of both fans is the same.

6. 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.

6.1. Inspection and maintenance schedule

Inspection schedule		User	Installer
Filter ISO Coarse ³45% (G3)	Pollution control	1 week	—
Filter ISO Coarse 65% (G4)		9 months	1 year
Filter ISO ePM2.5 70% (F7)		6 months	1 year
Ventilation unit	Pollution control and leakage	6 months	1 year
Engine module	Pollution control/ imbalance	—	1 year
Bypass valve/frost valve	Controls on activities/ 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 ISO Coarse ³45% (G3)	Cleaning (first 3 months)	1 week	if required
	Replaced (by G4 or F7)	3 months	if required
Filter ISO Coarse 65% (G4)	Cleaning	9 months	if required
	Replace	18 months	if required
Filter ISO ePM2.5 70% (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

6.2. 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.

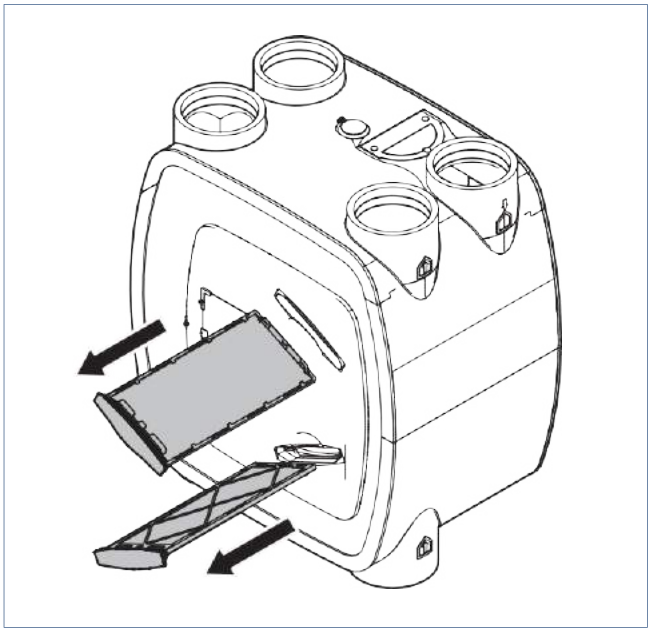
ä Attention!

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

Inspect and clean or replace the filters as follows:

a) Disconnect the ventilation unit from the power supply.

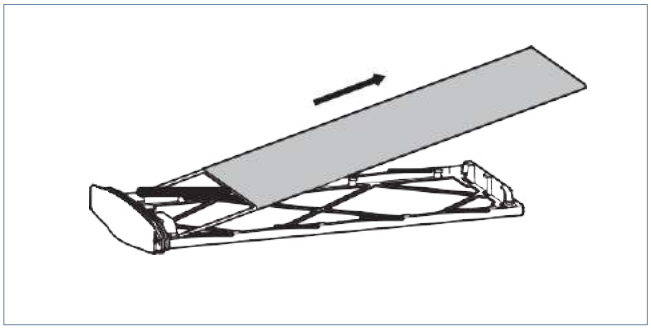
b) Remove both filter holders.



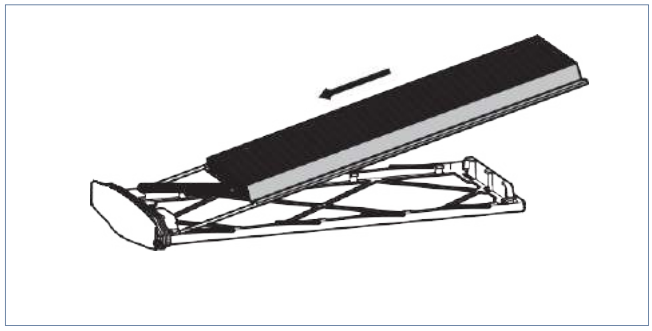
c) Visually inspect the filters for contamination. If the filters are dirty, they should be cleaned or replaced.

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

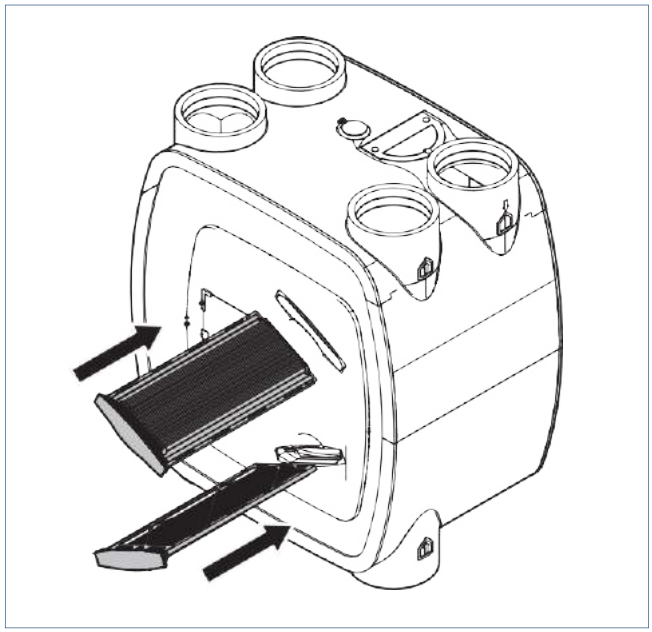
e) Remove the old filter from the filter holder when replacing it.



f) Place the new filter in the filter holder.



g) Replace both filter holders in the ventilation unit.



h) Restart the ventilation unit.

ä Warning!

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

6.3. 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 CO_2 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 CO_2 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!

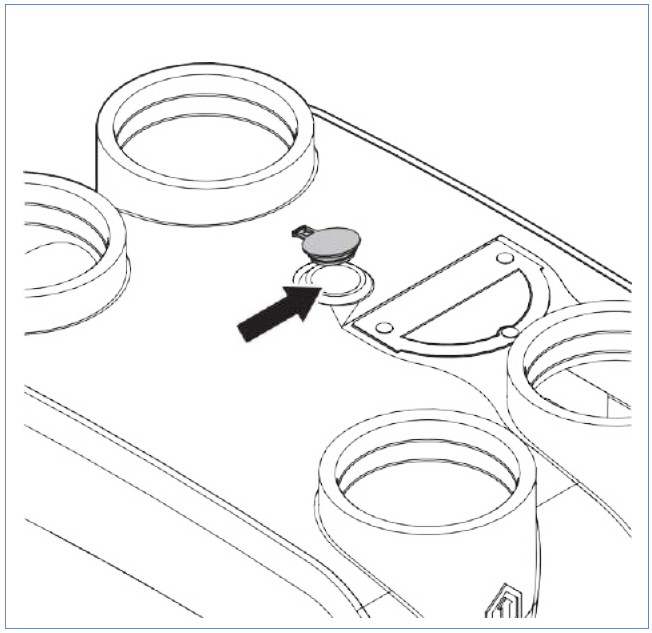
The HRU ECO 350 must be fitted with the appropriate filters at all times! Without filters, the unit can suffer irreparable damage.

6.4. 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.

6.5. Replace engine frost valve

The frost flap can be removed from the top of the unit without tools and without further action.

a) With four fingers next to each other (the nail side), push open the frost valve (into the unit). Make sure your thumb outside the unit presses on the black foam (between the valve body and the adjacent spout).

b) Now gently pull up the valve housing and at the same time slide it horizontally towards the spout. The motor and other bypass components are now accessible for inspection.

c) If necessary, the servomotor can now easily be replaced by disconnecting the connector and unscrewing the two crosshead screws.

ä Warning!

The frost channel must remain free at all times! Nothing may be placed on the frost channel.

6.6. 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.

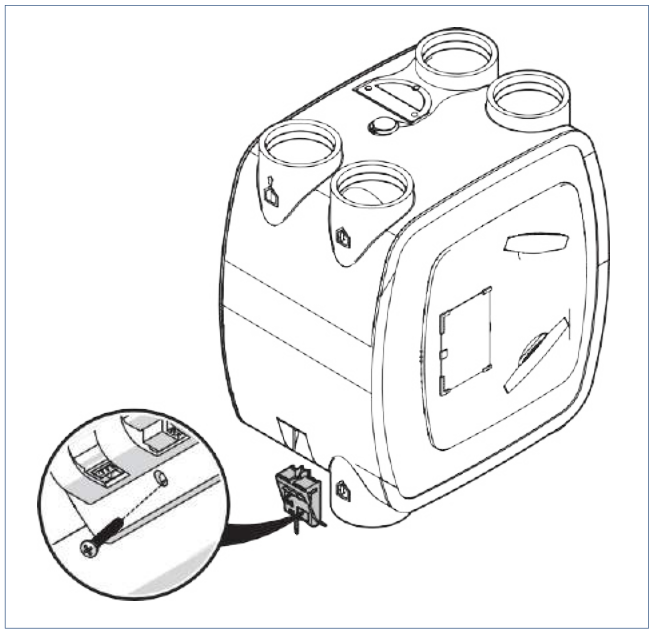
Clean the valves as follows.
In case of slight soiling, wipe the valves with a slightly damp cloth. If necessary, use a solution of a mild detergent such as washing-up liquid or all-purpose cleaner.
In case of strong adhesion of dirt, remove the valves completely from the canal.

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.

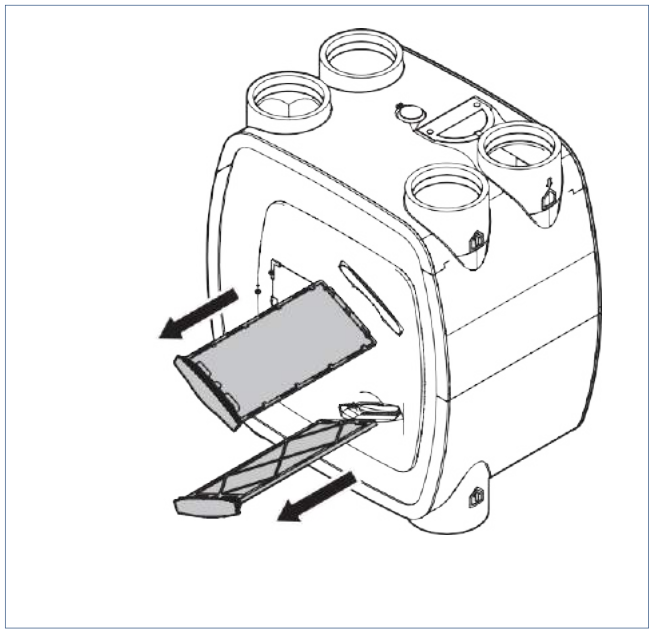
6.7. Inspect and clean fans

Go through the following steps when inspecting and cleaning the fans:

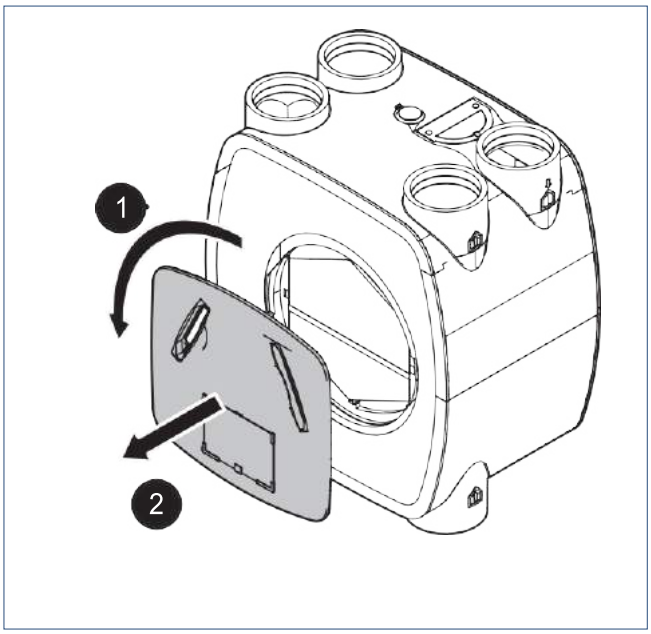
a) Disconnect the ventilation unit from the power supply.
b) Remove the connection cap with power cable from the ventilation unit.



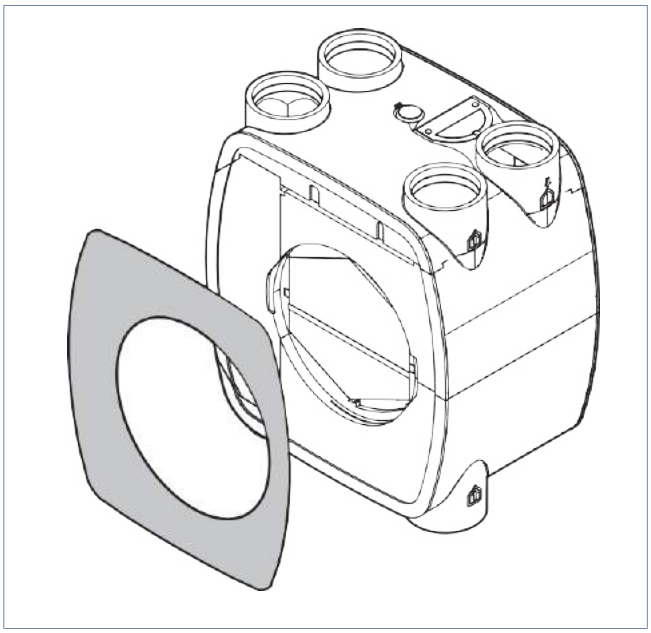
c) Remove both filter holders.



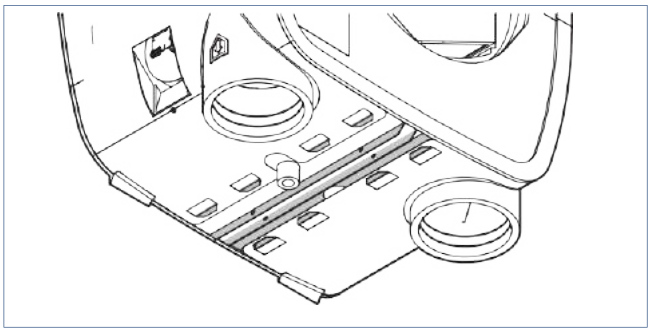
d) Turn the front door with bayonet lock one quarter turn anti-clockwise and remove the front door.



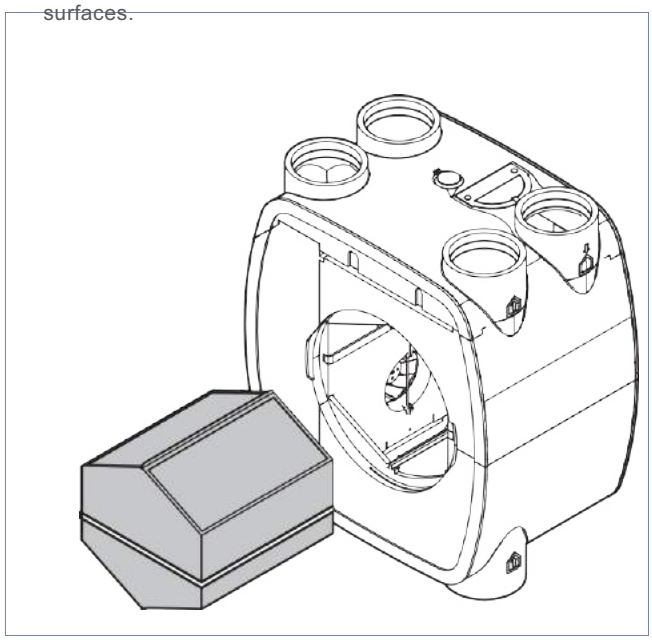
e) Remove the front plate.



f) Loosen the two nuts of the clasp at the bottom about 1.5 cm, but in such a way that the nut remains on the bolt.

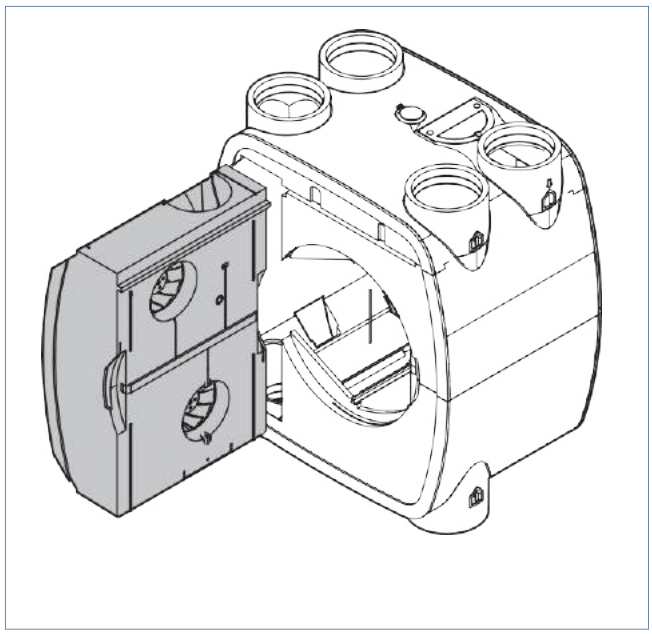


g) Remove the exchanger by pulling the clamping band out of the ventilation unit.
This is done with some friction. Therefore, stop the housing so that the ventilation unit remains against the wall. Wear the exchanger on the clamping band and not on the grey surfaces.

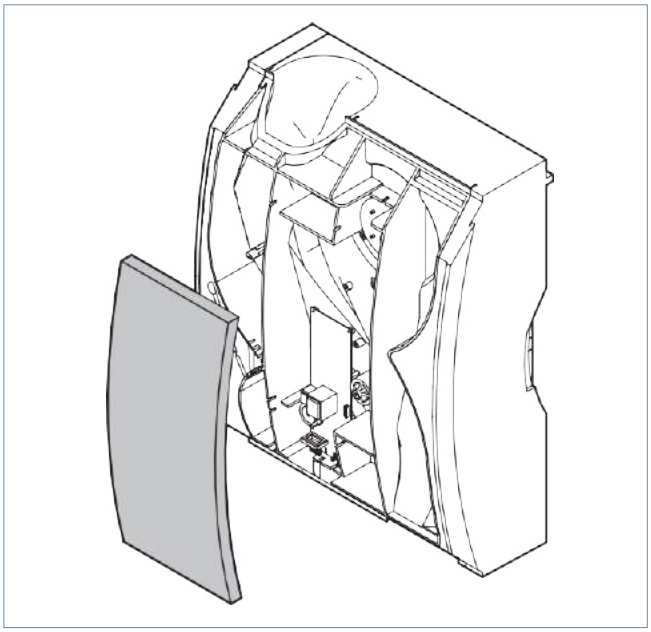


h) Disconnect the electric cable from the bypass/frost valve motor. The connector is located near the supply fan (top).

i) Slide the motor module out of the ventilation unit, holding the rest of the housing so that the ventilation unit remains against the wall.

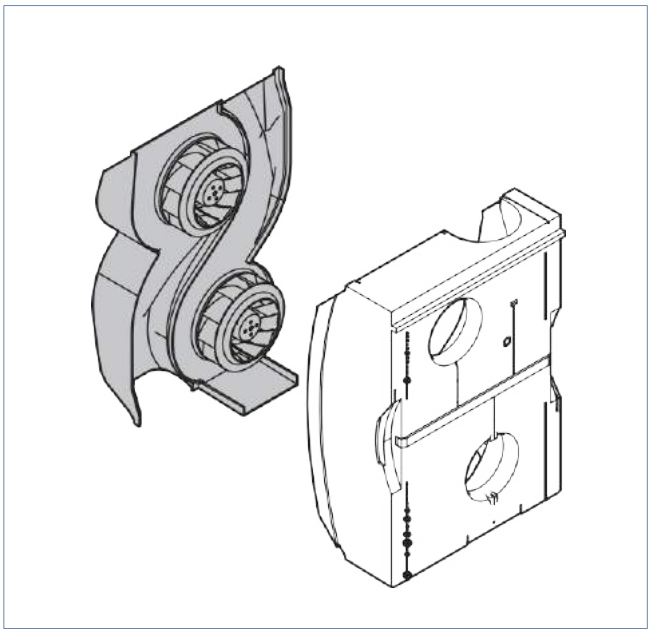


j) Remove the insulation board.



k) Turn the PCB module over and disconnect the connector of the frost protection sensors and the connector of the bypass/frost valve motor. These are the connectors on the wires that go through the black foamed plastic housing.

l) Now the hard plastic sheet complete with fans, power supply and control can be separated from the black foamed plastic housing.



m) Inspect the impeller blades of both fans.

n) Carefully clean both impellers with a hoover if necessary.

ä Attention!

Make sure that the balancing clamps do not shift or loosen when cleaning the fan!

o) Check that the fans are still balanced by setting either fan in motion. If the impellers are very swaying (and this has led to noise problems), the entire motor module must be replaced.

p) Mount the motor module and ventilation unit in reverse order.

q) Bring the ventilation unit back under tension.

6.8. Inspecting/cleaning channels

It is advisable to check the channels in the house once every 4 years. The ducts should be cleaned once every 8 years.

ä Warning!

Disconnect the unit, or remove the motor plate, when cleaning the ducts so that the unit does not get dirty inside (RV sensor)!

7. Malfunctions

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 Inspection,cleaning/replacing filters on page 29. • Then reset the dirt filter indicator. See above: Resetting the dirt filter indication .

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 when 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 when 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 will automatically shut down. back 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 return 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.	• Insert the plug into a socket outlet.
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 connector of the fan is loose or Wrongly connected.	• Place the connector of the fan on the correct connection of the circuit board.
b) The fan is start/stable due to extreme temperatures. pollution.	• Clean the fan impeller. Pay attention to 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 connector of the fan is loose or Wrongly connected.	• Place the connector of the fan 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 rises sufficiently, the fan will start again. start spinning.
c) The fan starts/stops due to extreme temperatures. pollution.	• Clean the fan impeller. Pay attention to 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 start/stable due to extreme temperatures. pollution.	• 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 it by means of vibration dampers on the Wall/ceiling/floor detachable.
(d) The channels are not properly connected to the unit.	• Check the connections and make sure that fixed ducts on the wall/ceiling/floor are buckled.
(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 problem. 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.	• Start the commissioning procedure again 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 it will be less sensitive. is encountering obstacles.
(d) The brand names of the RF control and the ventilation 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 goes into the high mode/when the high/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 (and sensors) again. on.

The ventilation unit does not respond to the 3-position switch	
Cause	Solution
a) The plug of the ventilation unit is not plugged into any socket outlet.	• Insert the plug into a socket outlet.
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.

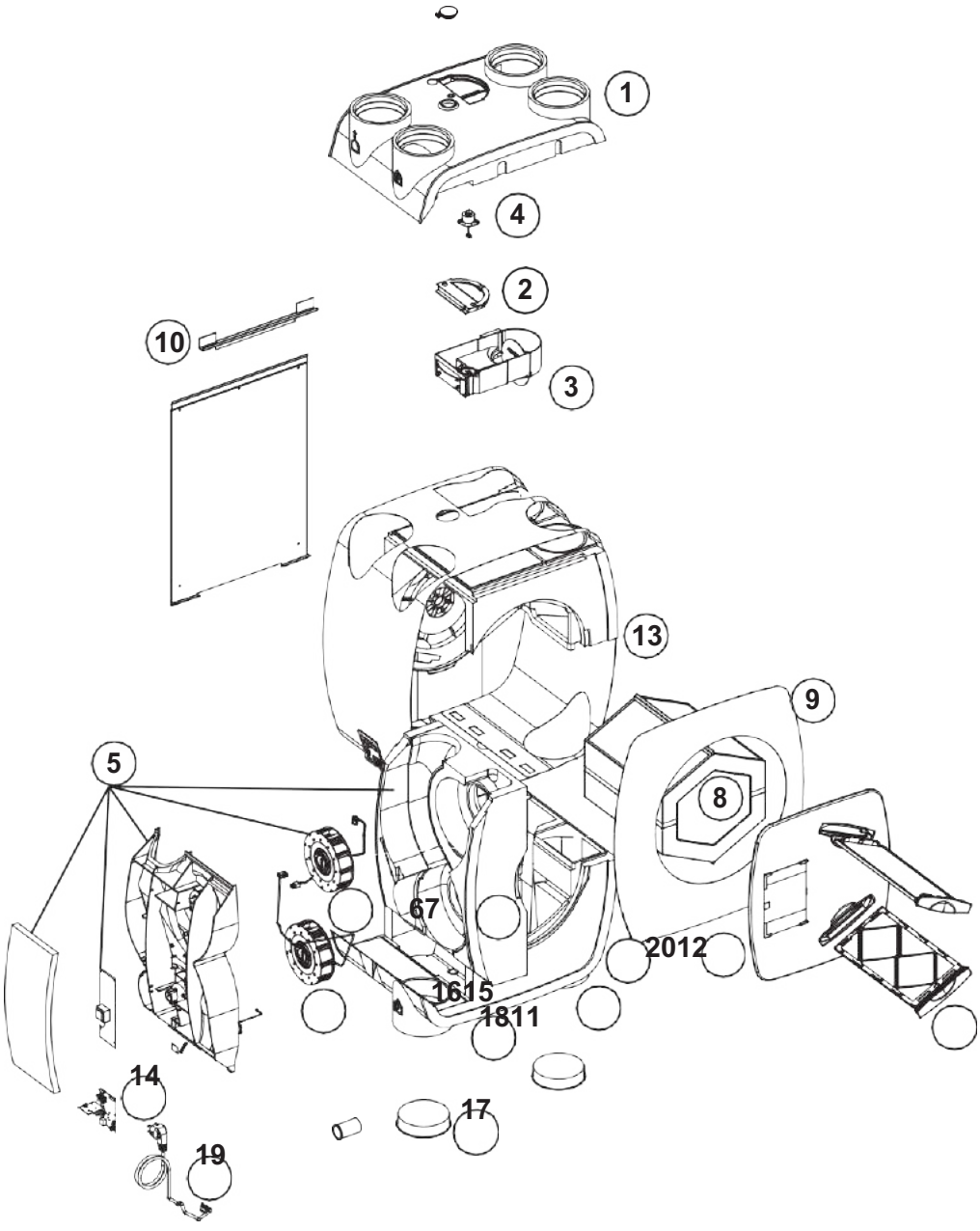
Channels to the outside are wet (on the outside) and/or leaking water	
Cause	Solution
a) The ducts to the outside are not thermally and vapour tightly insulated.	• Make sure that the channels that go out over the entire length are thermal and are vapour-tight insulated.
b) There is no rain- and vapour-tight roof penetration. applied.	• Replace the existing roof gutter(s) through rain- and vapour-tight passage(s).

The valves make sound	
Cause	Solution
(a) No silencing hose is fitted in the canals to the house.	• Mount sound-absorbing hoses on the Channels that go to the house.
(b) The valves are not properly adjusted.	• Set the ventilation unit to the commissioning position and adjust the system again.

The air quality in the house is not good/there is regularly no supply or extraction of air to or from the house	
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.	● Set the ventilation unit to the commissioning position and adjust the system again.
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 extraction.
(b) The valves are not properly adjusted.	● Set the ventilation unit to the commissioning position and adjust the system again.
(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 complete exhaust air temperature sensor. bypass module.

8. Service parts



Exploded view

No	P	R	Article number	Description	Order number
01	-•	-•	545-4624	HRU 3 EPP upper part	1
02	-•	-•	545-4965	Frost valve for HRU	1
03	-•	-•	545-4966	Bypass valve HRU	1
04	-•	-•	545-4635	Engine bypass valve	1
05	-•	-•	05-00482	Service module BVFT-L low-rise (HRU 350)	1
			05-00483	Service module BVFT-H high-rise (HRU 350)	
06	-•	-•	545-4915	Fan HRU	1
07	-•	-•	545-4645	Temperature sensor HRU-3	1
08	-•	-•	05-00342	Heat exchanger HRU 3 HOLMAK	1
09	-•	-•	545-4630	EPP housing motor section low-rise	5
			545-4631	EPP housing motor section high-rise	
10	-•	-•	545-4925	Assembly kit HRU	1
11	-•	-•	05-00481	Filter frame HRU 3 complete	1
12	-•	-•	545-4835	Door HRU 3	1
13	-•	-•	545-4600	Coat HRU WHITE	1
14	-•	-•	05-00486	Printplaatset BV (F)T vv I2C (HRU ECO 350)	1
15	-•	-•	545-4621	EPP housing under	1
16	-•	-•	545-4682	Vibration dampers 23 mm	
17	-•	-•	545-4950	Red cap for HRU-3	1
18	-•	-•	545-4955	Siphon collar sleeve HRU-3	1
19	-	-•	545-5116	Power cable with protective earth plug L=175 cm	1
	-•	-	545-5117	Power cable with Perilex plug L=175 cm	1
20	-•	-•	05-00506	Cover plate with hole	1
	-•	-•	545-4840	Filter set G4 (Filter ISO Coarse 65%)	1
	-•	-•	545-4845	Filter set F7 (Filter ISO ePM2.5 70%)	1

9. 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.

10. 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 January 2018.

Coen Schut, Innovation Manager Ventilation

The Netherlands

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T 010 427 85 65

01-02249-002 | ID 2018-12-12-