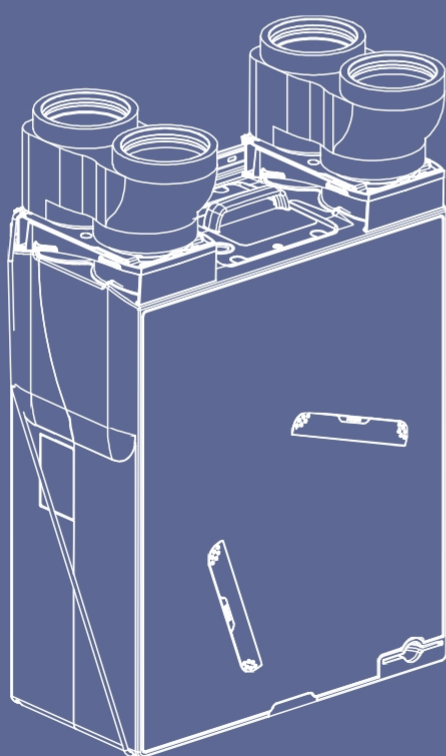


Installation & use



Foreword

The installer is responsible for installing and commissioning the unit.

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

Warning!

Indicates a hazard that could cause bodily injury to persons and/or severe material damage to product, system or environment.

Caution!

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

Comment

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

Although this manual has been compiled with the utmost care,

Tip

Indication that may be important for the installation, operation, operation or maintenance of the product, not related to personal injury to persons or damage to property.

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

Don't forget to register the product via the app or the Itho Daalderop website for additional warranty!

Content

1. Safety and regulations	5	7. Faults	39
1.1. Safety	5	8. Service parts	44
1.2. Standards and guidelines	6	8.1. Service parts	44
1.3. Air supply and exhaust system requirements	7		
2. Product information	8	9. Warranty	46
2.1. Home comfort and energy saving	8	10. Statements	47
2.2. Executions	9		
2.3. Accessories	9		
2.4. Technical specifications	10		
2.5. Product card information	11		
2.6. Capacity, pressure and power	12		
2.7. Capacity	12		
2.8. Dimension drawings	13		
2.9. Schemes	14		
2.10. Status LED	15		
2.11. Filter sets	15		
2.12. Valves	15		
2.13. Application in new construction	15		
2.14. Recycling	16		
2.15. Scope of delivery	16		
2.16. Unpacking and checking	16		
3. Installation	17		
3.1. Installation requirements	17		
3.2. Positioning the ventilation unit	17		
3.3. Connecting the channels	25		
3.4. Connecting condensate drain	25		
3.5. Electrical connection	26		
4. Operation	27		
4.1. Venting modes	27		
5. Commissioning	29		
5.1. Preparation	29		
5.2. Commissioning	29		
5.3. Setting capacity	30		
5.4. Logging on and off wireless controls and sensors	30		
6. Inspection and maintenance	32		
6.1. Inspection and maintenance schedule	32		
6.2. Inspecting and cleaning the fan	33		
6.3. Inspect and clean bypass valve	34		
6.4. Filter warning	35		
6.5. Filter warning CO2 sensor or humidity sensor	35		
6.6. Filter warning Spider climate thermostat	35		
6.7. Inspect, clean/replace filters	36		
6.8. Resetting filter warning	37		
6.9. Inspecting/cleaning valves	38		
6.10. Inspecting/cleaning ducts	38		

1. Safety and regulations

1.1. Safety

- Work on the ventilation system may only be carried out by authorised installers ⁽¹⁾ according to the instructions listed 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 barefoot.
- This product and/or system may be operated by children aged 8 years and above and by persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they are supervised or instructed in how to use it safely and are aware of the hazards of the product and/or system.
- Cleaning and user maintenance must not be carried out by children and by persons with reduced physical, sensory or mental capabilities or 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 avoid physical injury and/or damage to the product.
- Maintenance and cleaning should only be carried out after the appliance has been de-energised.
- The product contains rotating parts. Therefore, wait at least 10 seconds after disconnecting the power supply before opening or touching the product, as these parts continue to rotate for some time.
- Secure the system against unintentional reactivation.
- Maintenance instructions must be followed to prevent damage and excessive wear.
- The product must not be modified.
- The product is only suitable for a 230 V 50 Hz AC system.
- Ensure that the electrical system to which the product is connected meets the specified conditions.
- Do not expose the product to weather conditions.
- Do not place objects on the device.
- Regularly inspect the product for defects. In case of defects, switch off the product and contact your installer or the Itho Daalderop service department immediately.
- Never switch off the product except when*:
 - The product does not function properly.
 - You want to clean the product.

- Want to perform maintenance on the device.
- The government advises closing windows and doors in case of an emergency.

** You can switch off the appliance by unplugging the appliance from the wall socket, or, if the appliance is permanently connected, switch off the relevant power group via the circuit breaker in the meter cupboard.*

- Take care not to damage the electrical circuit.
- The electrical connection must always be easily accessible to disconnect the power supply.
- Always keep the power cord plug accessible.
- Do not use the unit to extract kettles, heating systems, etc.
- Ensure that the appliance extracts into a drain that is suitable and constructed for this purpose and drains to the outside.
- Keep valves free and clean.
- If the power cable is damaged, it must be replaced by the manufacturer, his agency or a qualified person to avoid danger.
- The user/consumer must not open the device.

**) A recognised installer is an installer working at a central heating or mechanical installation company registered with the Chamber of Commerce and included in the SEI recognition register (Stichting Erkenning Installatiebedrijven) or with Sterkin recognition.*

1.2. Standards and guidelines

Warning!

The specifications and settings of the appliance comply only with the standards and laws of the country in which it 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 set out in this document and other applicable manufacturer's documentation.

For all legal requirements and regulations, additions, amendments or legal requirements and regulations coming into force later apply at the time of installation.

After installation, no safety, health, and environmental risks should be present in accordance with the CE directives applicable to it. This also applies to other products included in the installation.

1.3. Air supply and exhaust system requirements

The air supply system must comply with applicable regulations.

- The ducts to and from the house: steel spiral pipe, with suitable internal diameter. Please refer to the dimensional drawing in this manual.
- Channels to and from the outside: vapour-proof insulated steel spiral duct, with suitable internal diameter. Please refer to the dimensional drawing in this manual.
- The insulation must connect properly (airtight) to the appliance. If air can get between the insulation and pipe, condensation will occur.
- Air ducts to and from the house should always be routed at a slope to the unit in horizontal ducts. Observe 3 mm per metre of duct length for this.
- Bracket every bend on the sleeve, except when connecting to appliance:
 - If the connecting pipe before and after the first bend is shorter than 0.25 m, the bracket at the first bend can be omitted.
 - In any case, the first bracket is placed at no more than 0.5 m from the device.
- Horizontal ducts and non-vertical ducts: maximum bracket spacing 1 m. For rigid connections, the maximum bracket spacing is 2 m. Distribute lengths between brackets evenly.
- Vertical ducts: maximum bracket spacing 2m. Distribute lengths between brackets evenly.
- Brace the last element of the connecting pipe for the transit/shaft. If this last element is a bend, the upstream element can also be braced.
- Apply the manufacturer's prescribed brackets.
- Metal connections may be secured with screws.
- Do not use grease, (acid-free) Vaseline or oil.
- Mount tension-free.
- Do not mix elements (components) of different materials and/or manufactures, other than allowed by the manufacturer.
- Air supply and air exhaust ducts should be kept as short as possible.
- Use as few bends as possible.
- If possible, avoid using 90° bends.
- If application of a 90° bend is unavoidable, do not place it within 1 metre of the appliance.
- Use wall and roof terminals suitable for a heat recovery ventilation unit.

2. Product information

2.1. Home comfort and energy saving

Home comfort and energy saving are becoming increasingly important in residential construction. Homes today are increasingly insulated, but unfortunately good insulation often comes at the expense of the indoor climate. Without good ventilation, moisture, mould and dust mites are given free rein, and the air in the home can soon feel 'stuffy' due to rising CO₂ (carbon dioxide) concentrations. Itho Daalderop produces 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 200.

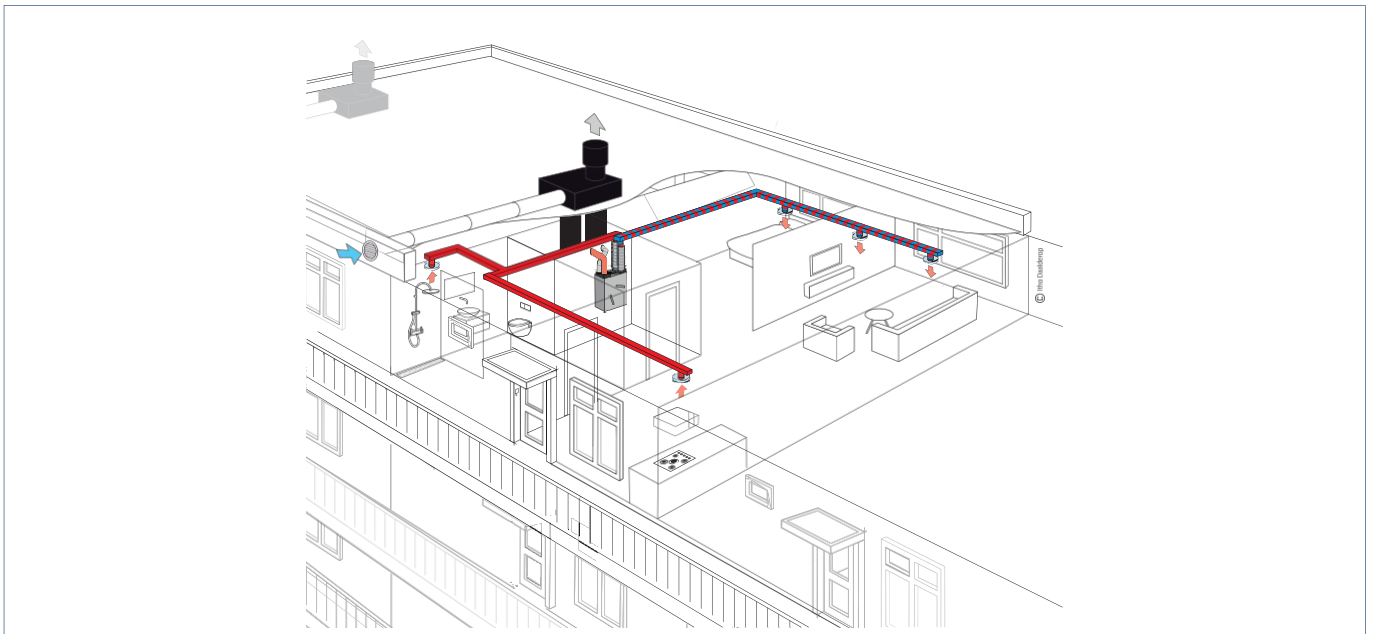
The HRU ECO 200 is a balanced ventilation system with heat recovery. The ventilation unit is equipped with a

fan with two impellers; one for return air and one for air supply.

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

The living room, bedrooms and possibly the corridor/hallway are also connected to the ventilation unit by ducts, but this is where fresh air is actually introduced.

For proper air distribution, the extraction and supply points in the rooms to be ventilated are fitted with extraction valves and supply grilles respectively.



2.2. Versions

Article	Type	Description
03-00407	HRU ECO 200 E	Balanced ventilation unit with heat recovery; RF; euro plug

2.3. Accessories

Item no.	Type	Description
536-0124	RFT W	Wireless control switch with three modes and timer function
536-0150	RFT AUTO	Wireless control switch with two modes, an automatic mode and a timer function
04-00045	RFT-CO ₂ 230V	RFT-CO ₂ sensor with control - 230 V powered
04-00046	RFT-RV BAT	RFT-RV sensor with control - battery-operated
03-00062	Spider Base	Spider Base Climate Thermostat
04-00087	RF repeater	RF repeater
591-1030	FGD 128-50	Sound-absorbing flexible hose, Ø 128 mm, length 50 cm
591-1230	FGD 128-100	Sound-absorbing flexible hose, Ø 128 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
03-00221	VKR HRU 150mm	External frost valve Ø150 mm
540-7960	CVH 125	Mechanical back draught shutter diameter Ø 125 mm

2.4. Technical specifications

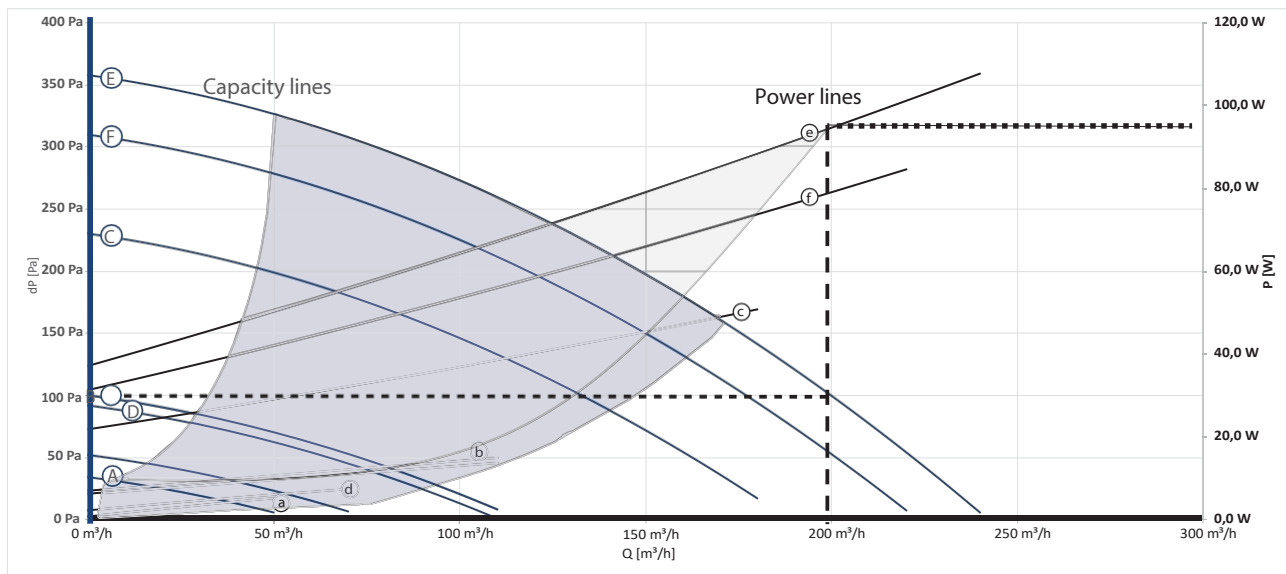
Description	Symbol	Unit	HRU ECO 200
			E
DIMENSIONS AND WEIGHT			
Dimensions (HxWxD)	-	mm	916 x 597 x 290
Weight	-	kg	12
ADDRESSES			
Connection HRU duct adapters	-	mm	2x Ø125 external
Connection EPP couplings	-	mm	- Bottom fit on HRU duct adapters. - Top side 2x Ø125 internal and 2x Ø149 external.
Condensate drain	-	mm	2x Ø 14 external
GENERAL			
Safety class	-	-	Double insulated
Installation class	-	-	2
Temperature sensors	-	-	- 1x outside air temperature - 1x return air temperature
Filter class	-	-	≥45% Coarse ISO16890(G3) Standard (building dust filter for the first 3 months), then replace with 65% Coarse ISO16890(G4) or 70% ePM1 ISO16890(F7)
Summer bypass control	-	-	Automatic self-regulating via integrated bypass valve
RF (integrated)	-	MHz	868,3
Transmit power	-	dBm	7
Transmit/receive range	-	m	30 (free field)
Supply voltage	-	-	~ 230V - 50Hz
Power connection	-	-	2-wire power cable with euro plug
TECHNICAL PARAMETERS			
Thermal efficiency of heat recovery	η _t	%	87
Electrical input power of the fan drive, at maximum flow rate	-	W	99
APPLICATION			
Temperature range	-	°C	0-40
Relative humidity range	-	%	5-90 (non-condensing)

2.5. Product card information

Itho Daalderop			HRU ECO 200
Description	Symbol	Unit	E
Specific energy consumption class	-	-	A
Specific energy consumption, under moderate climate conditions	SEC	kWh/(m ² .a)	-36
Specific energy consumption, under warm climate conditions	SEC	kWh/(m ² .a)	-11
Specific energy consumption, under cold climate conditions	SEC	kWh/(m ² .a)	-73
Ventilation unit type	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 the heat recovery	η_t	%	87*
Maximum flow rate	q _{max}	m ³ /h	200
Electrical input power of the fan drive, at maximum flow rate	P _{max}	W	99
Sound power level	LWA	dB	53
Reference flow rate	q _{ref}	m ³ /s	0,0389
Reference pressure difference	ΔP_{ref}	Pa	50
Specific input power	SPI	W (m ³ /h)	0,282
Ventilation control	-	-	Manual control (no DCV)
Control factor	CTRL	-	1
Declared maximum percentages for internal leakage for bi-directional ventilation units	-	%	2,1
Declared maximum percentages for external leakage for bi-directional ventilation units	-	%	5
Replace warning signal filter	-	-	On device or via paired accessories
Instructions for pre-assembly/disassembly	-	-	www.ithodaalderop.nl
Annual electricity consumption	AEC	kWh	3,0
Annual heating savings, under moderate climate conditions	AHS	kWh	45
Annual heating savings, under hot climate conditions	AHS	kWh	20
Annual heating savings, under cold climate conditions	AHS	kWh	88

* Compliance with standard EN 13141-7:2010

2.6. Capacity, pressure and power



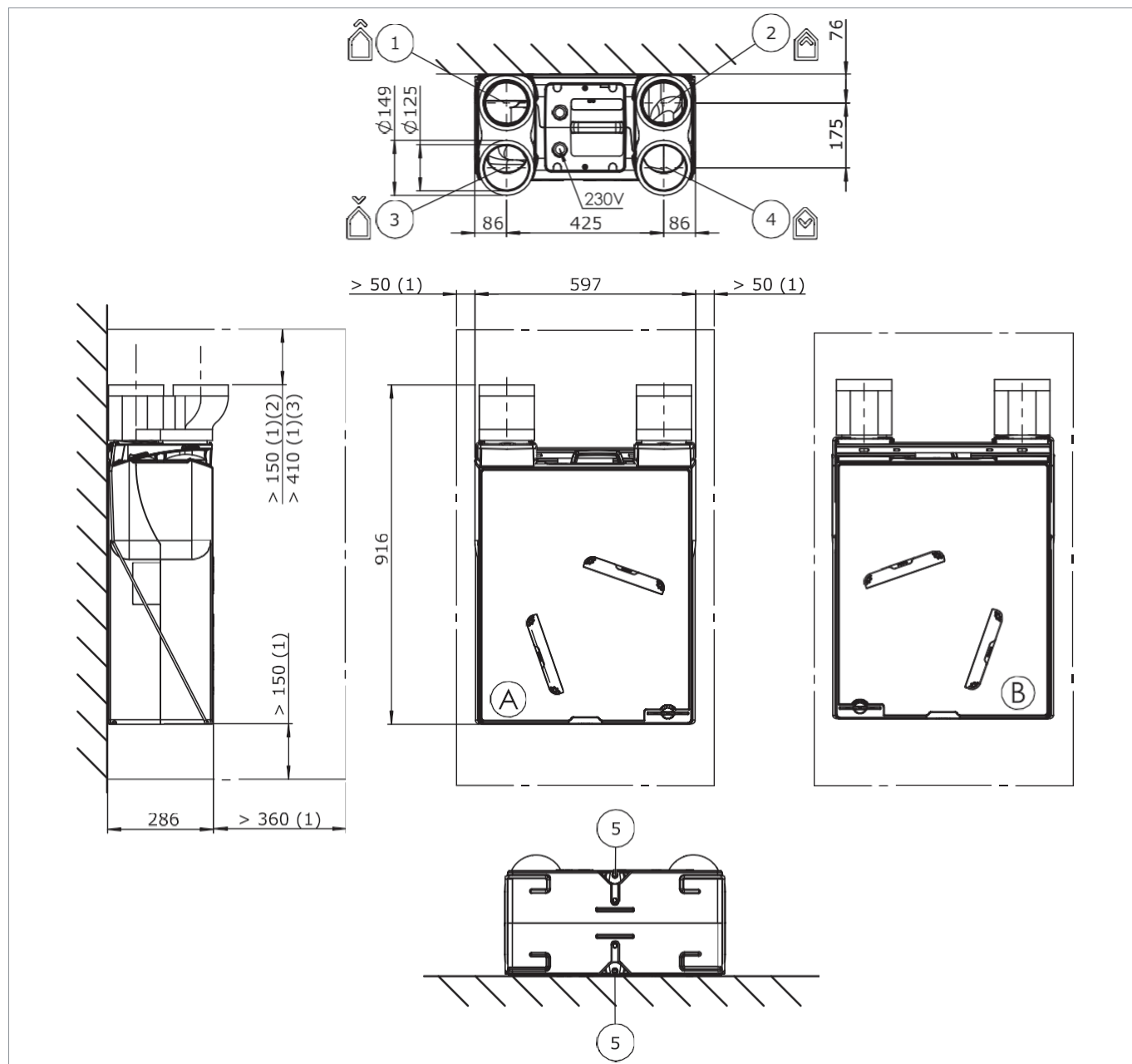
Legend Capacity chart		Unit
Q	Flow rate in cubic metres per hour	m ³ /h
dP	Pressure in Pascal	Pa
P	Power in Watts	W

2.7. Capacity

		Line graph	Pressure [Pa]	Capacity [m ³ /h]	Power [W]	Sound power level Radiated LwA [dBA]	Sound power Extract LwA [dBA]
Position 1	Minimum	A-a	25	21	2,8	47	22
Position 1	Standard		24	50	6,1	41	31
Position 1	Maximum	B-b	48	75	12	45	39
Position 2	Standard	D-d	70	40	9	51	30
Position 3	Minimum	B-b	48	75	12	45	39
Position 3	Standard	C-c	112	125	41	57	70
Position 3	Maximum	F-f	150	150	66	61	81
Position 3	Maximum*	E-e	100	200	95	61	63

* Indicated in graph with dotted line

2.8. Dimension drawings



1) Minimum free space to be kept around the ventilation unit.

3) Installation with frost valve.

2) Installation without frost valve.

Legend

1	Exhaust air to outside	A	Mounting position standard
2	Exhaust air from home	B	Mounting position mirrored
3	Supply air from outside		
4	Supply air to dwelling		
5	Condensate drain (2x)		

2.9. Schemes

The HRU ECO 200 has a 3-position control as standard where the ventilation flow rate can be set in the low setting and the high setting.

2.9.1. Heat recovery

Before the polluted air is exhausted to the outside, it is filtered and passed through the heat exchanger. Similarly, before the fresh outside air is brought into the house, it is first filtered and passed through the heat exchanger. In the heat exchanger, the two air streams are directed past each other (i.e. they are not mixed together). As a result, the energy of the exhaust air is transferred to the fresh supply air, so this energy is not lost. In winter, the colder outside air is thus warmed up. In summer, the relatively colder indoor air is transferred to the warmer supply air so that it warms up somewhat less.

Comment

Despite the heat exchange, the balanced ventilation system should not be considered a heating or cooling system. It prevents the loss of heat through ventilation.

2.9.2. Summer bypass control

The purpose of summer bypass control is to ventilate the house with less, or no, heat transfer.

The Itho Daalderop heat recovery unit HRU ECO 200 comes standard with a bypass valve integrated in the unit. This valve works automatically. The bypass valve ensures that the extracted indoor air is diverted around the exchanger. The supply air still passes through the air filter and the exchanger.

This automatic control will mainly operate at night, in summer. The outside air is then usually cooler than the warm indoor air. The bypass control will keep the house cool for longer.

2.9.3. Vorstregeling

The ventilation unit has an automatic control (frost control) that protects the exchanger of the ventilation unit from freezing.

If the measured outside air temperature is below -1°C , the fan is stepped down and finally stopped completely.

When the ventilation unit is stopped by the frost control, the ventilation unit only responds to the timer control.

The frost control periodically checks whether the temperature has already risen enough to turn on the ventilation unit.

By using (collectively) pre-heated supply air or mixing warmer air from the house with the supply air from outside, the ventilation unit will continue to operate and provide sufficient ventilation even at outdoor temperatures below -1°C .

2.9.4. Automatic ventilation based on CO₂ or RH measurement (optional)

A CO₂ or RH sensor can be connected to the ventilation unit, which communicates wirelessly with the unit.

The CO₂ sensor can be mounted in any room, but preferably in living and/or bedrooms. The RH sensor is mounted in the bathroom(s) and/or in a wet room.

The operable sensor measures the CO₂ concentration in the room. It translates the measured value into a ventilation requirement and communicates it wirelessly to the ventilation unit to which the sensor is connected. As the CO₂ concentration in the room increases due to more intensive use of the room, ventilation will gradually be increased.

The operable RH sensor does the same for relative humidity.

Tip

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

⚠ Caution!

Control based on wireless sensors (CO₂ and/or RH) only works when the ventilation unit is in Auto/Auto night mode.

2.10. Status LED

The unit is equipped with a status LED on the top of the unit. The status LED can display the following messages:

Pattern		Function
Green	Orange	
Flashes 1x/s	Flashes 1x/s	Identification
Flashes 1x/s		Login mode
Brandt 6 s	Flashes 1x/s	Freeze mode
Burns 5 s	Flashes 2x/s	Bypass mode
Brandt		Normal operation
Pattern		Function
Red	Orange	
Flashes 1x/s	Flashes 1x/s	Fan fault
Flashes 2x/s	Flashes 2x/s	Sensor fault outlet temperature
Flashes 2x/s	Flashes 3x/s	Sensor fault supply temperature
Flashes 3x/s	Flashes 1x/s	Sensor fault
	Flashes 1x/s	Filter dirty

2.11. Filter sets

The HRU ECO 200 has two filters, one for each air stream. 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 from dust and other pollutants in the intake air.

There are different types of filters:

- **Filter 65% Coarse ISO16890 (G4) .**
This coarse filter is mainly used to filter relatively large dust particles from the air. It mainly protects the heat exchanger from penetrating dirt.
- **Filter 70% ePM1 ISO16890 (F7).**
Besides coarse dust particles, this fine filter also stops finer dust particles (pollen). Especially people with allergy complaints can benefit from this.

Over time, the filters will foul, increasing the energy consumption of the ventilation unit. It is therefore necessary to clean and eventually replace the filters as indicated.

⚠ Warning!

The HRU ECO 200 must be fitted with the matching filters at all times! Without filters, the unit may suffer irreparable damage.

2.12. Valves

The amount of air to be extracted is regulated by law, and the amount of air to be blown in must be balanced with it. That is, as much air must be extracted as is supplied. The unit regulates this balance on its own. The minimum air volume per room is also determined by law. The quantities are chosen so that no unnecessary energy is wasted and yet an optimal indoor climate is achieved. For example, the air volumes extracted and supplied for each room differ in size. The extract and supply valves therefore each have their own required setting.

Comment

It is very important that the resident does not change anything about the setting of the valves. This will disrupt the proper functioning of the overall ventilation system. The valves must not be interchanged.

2.13. Application in new-build home

Every newly built house contains a large amount of building moisture. This moisture comes from wet building materials such as concrete, cement, spray paint and glue. Building moisture disappears best by ventilating the house well and keeping the temperature as constant as possible, preferably at room temperature.

Dry firing - not too fast.

By bringing heat into the house, you promote the drying process of the house, this is also called dry firing. This dry firing should not be done too quickly, as drying out too quickly results in a lot of damage (such as shrinkage cracks). Keep in mind that this dry firing process can take up to six months. Set the heating at 15 to 18°C, and when you move in at 20 degrees. Do not set the heating higher, because if it gets too hot the materials dry too quickly and damage may occur.

Ventilation during dry firing.

During the drying process, good ventilation is essential. For the first year, keep about 5 centimetres of space between the walls and your furniture to allow moisture to escape. In addition, the mechanical ventilation system should always be on, so never unplug it. During the first months, set the ventilation system to a high setting as much as possible.

This creates the most favourable air circulation in the house.

⚠ Caution!

In a newly built house, the filters of the ventilation unit should be cleaned after 1 week and replaced after 3 months!

⚠ Caution!

Building dust can damage the heat exchanger if no filter is installed in the unit.

2.14. Recycle

Sustainable materials were used in the manufacture of this product. This product must be disposed of responsibly at the end of its life cycle. The government can provide you with information on this.

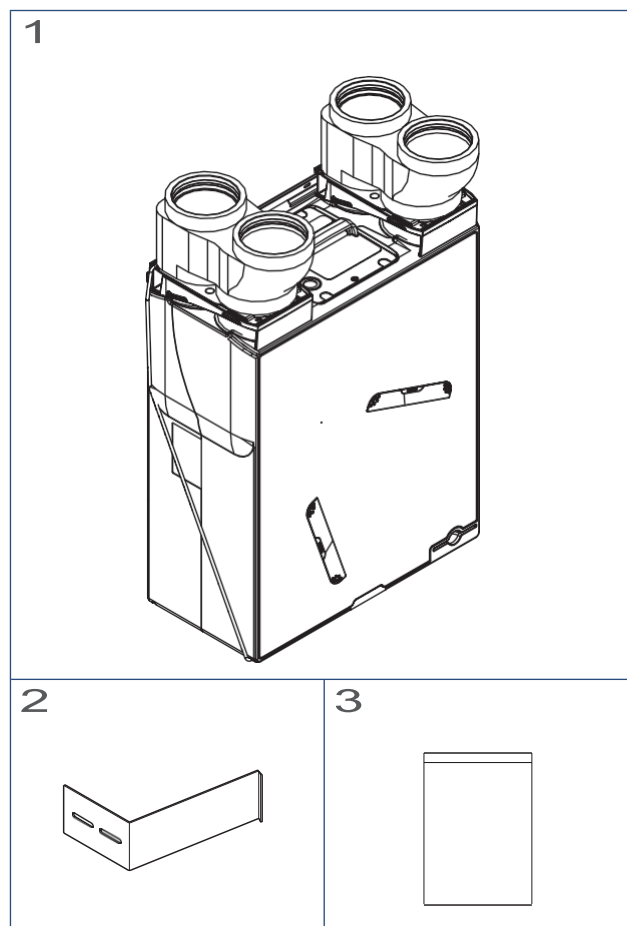
The product packaging is recyclable. You should **d i s p o s e** of these materials responsibly and in accordance with government regulations.



To draw attention to the obligation to dispose of batteries and household electrical appliances separately, the product bears the symbol of a crossed-out rubbish bin. This means that the product must not be disposed of with ordinary household waste at the end of its service life. The product must be taken to a special separate waste collection centre of the municipality or to a point of sale that provides this service.

Disposing of batteries and household appliances separately prevents potentially negative environmental and **h e a l t h** effects caused by inappropriate disposal. It **e n s u r e s** that the materials making up the appliance can be recovered to achieve significant energy and resource savings.

2.15. Scope of delivery



Legend

- | | |
|---|--------------------------|
| 1 | HRU ECO 200 |
| 2 | Ceiling mounting bracket |
| 3 | Documentation set |

2.16. Unpacking and checking

- Carefully remove the equipment from the box.
- Check the nameplate details and type for accuracy as shown on the sticker on the outside of the box.
- Check the equipment for damage and completeness.
- Check that the necessary documentation and accessories are packed with the appliance.
- Place the ventilation unit upright on the floor.

3. Installation

3.1. Installation requirements

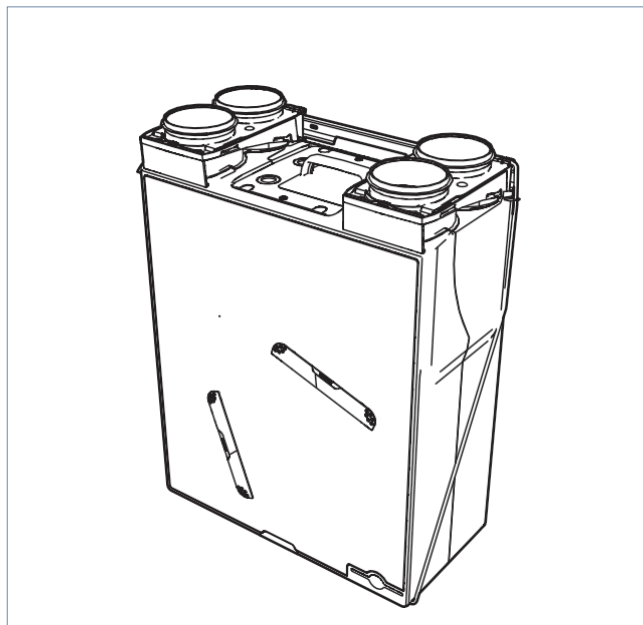
Before installing the system, consider the following:

- Mount the ventilation unit:
 - in a closed set-up room (where the system can cause as little noise as possible).
 - in an installation room that is frost-free.
 - near a wall socket 230 V, 50 Hz (for Euro plug); the length of the power cable is 1.5 m.
 - near a siphon with connection to the sewerage system (for condensate drain connection).
 - to a wall/ceiling/floor with sufficient load-bearing capacity (min. 200 kg/m²).
- When positioning ventilation units, bear in mind that sufficient space is also kept free for s e r v i c i n g ; see Dimension drawings on page 13.
- The duct system and extract and supply points must be correctly dimensioned.
- Appropriate fasteners must be present.
- To avoid noise complaints, Itho Daalderop recommends:
 - connecting the ducts to and from the accommodation spaces with silencers;
 - using insulated HRU ducts with a metal inner core.

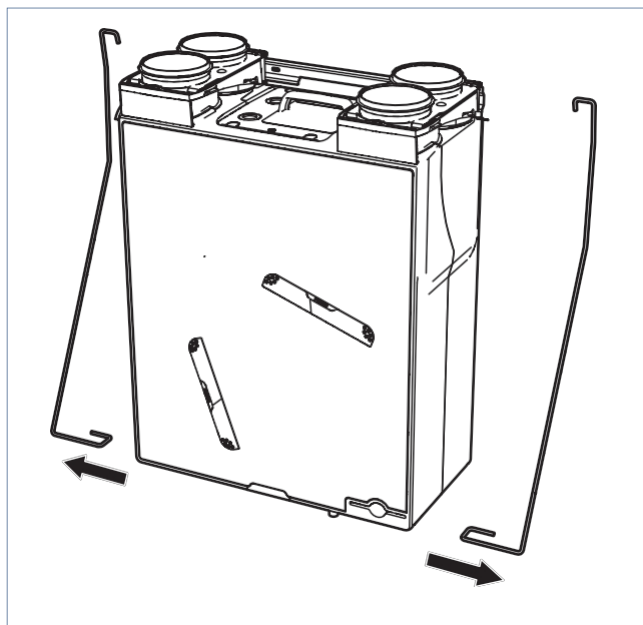
3.2. Installing the ventilation unit

3.2.1. Preparing appliance for assembly

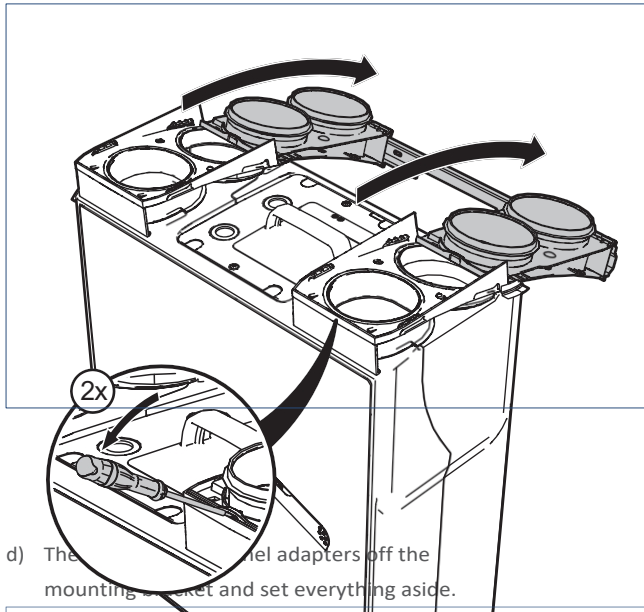
- a) Place the ventilation unit upright on the ground so that the duct adapters are at the top.



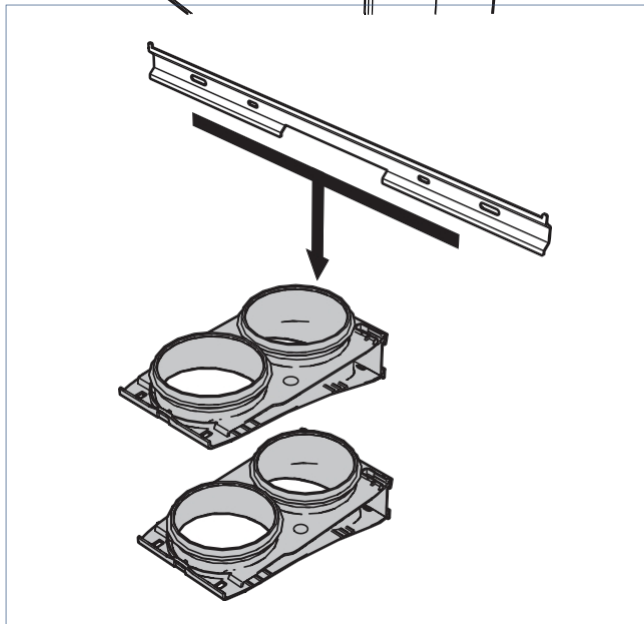
- b) Remove the two wire brackets from the unit and set them aside.



- c) Using a flat screwdriver, unlock both channel adapters on the front sides of the unit. Then slide both adapters, connected by the mounting bracket, off the unit at the same time.



- d) The channel adapters off the mounting bracket and set everything aside.



3.2.2. Mounting positions and duct connections

⚠ Caution!

Fix the ventilation unit to a concrete surface, not to a wooden or plaster surface or to a surface with insufficient mass ($\geq 200 \text{ kg/m}^2$). This will lead to noise pollution.

⚠ Caution!

Always ensure that the ventilation unit is mounted so that the ducts are connected to the correct inlet and outlet openings!

⚠ Caution!

If the ventilation unit is mounted 'rotated', the duct adapters must change position!

The ventilation unit can be mounted on the wall, floor or ceiling.

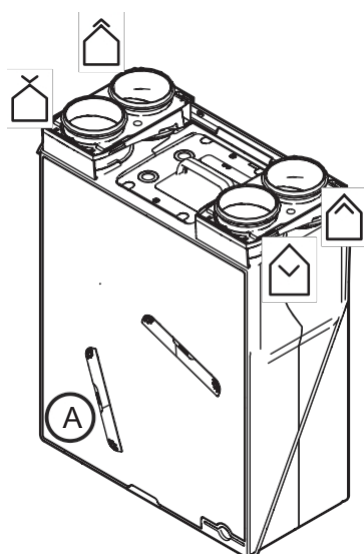
Depending on the arrangement of the ducts, the ventilation unit can be mounted on the wall 'standard' (as supplied in the packaging) or 'rotated' (see Conversions for assembly on page 20).

For floor mounting, the unit is always mounted 'standard' and for ceiling mounting it is always 'rotated'. This is due to the path the condensation water has to take.

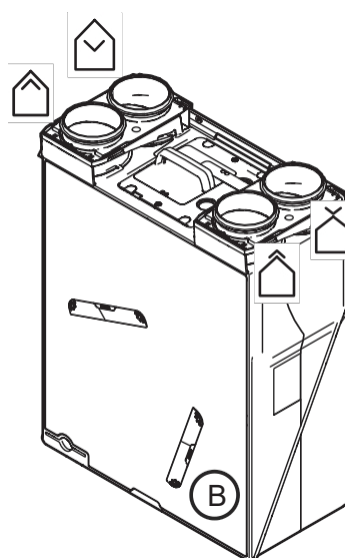
The pictograms on the ventilation unit indicate which ducts should be connected to which openings.

Mounting positions

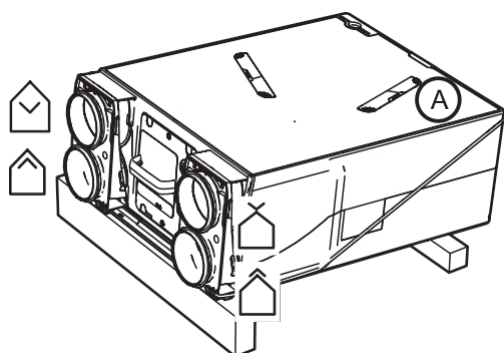
Wall 'standard'



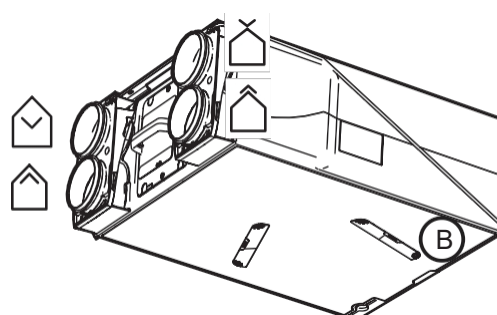
Wall 'turned' ⁽¹⁾



Floor 'standard'



Ceiling 'turned' ⁽¹⁾



1) See Conversion for assembly on page 20.



Supply air from outside



Supply air to dwelling



Exhaust air to the outside



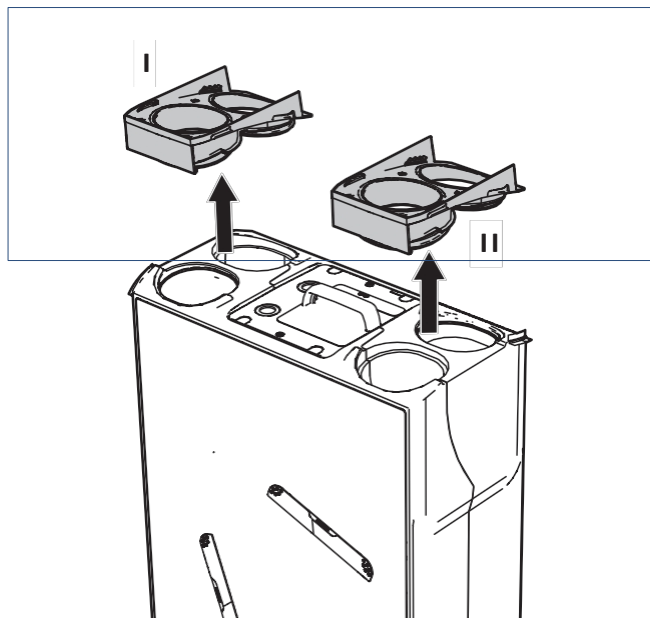
Exhaust air from home

3.2.3. Conversions for assembly

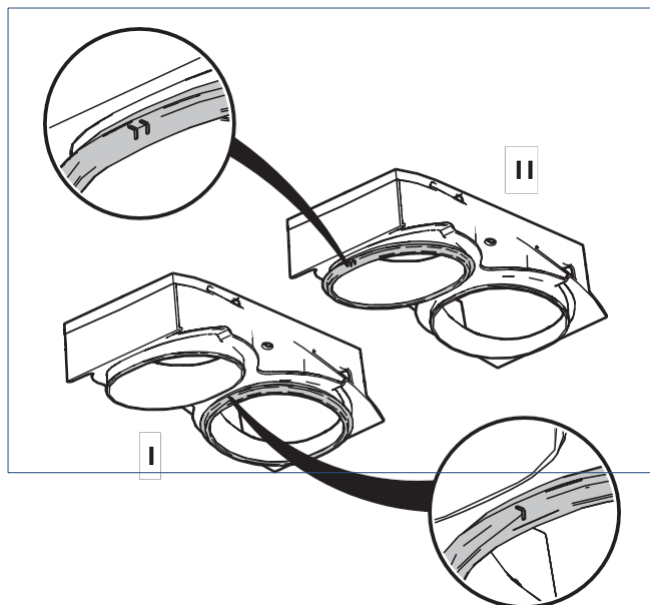
The ventilation unit comes standard with the air supply ducts on the wall side (side of the mounting bracket). This is the correct position for wall and floor mounting.

For ceiling mounting, or if more convenient for wall mounting, the ventilation unit can easily be rotated. If it is not necessary to rotate the unit, the paragraph below can be skipped.

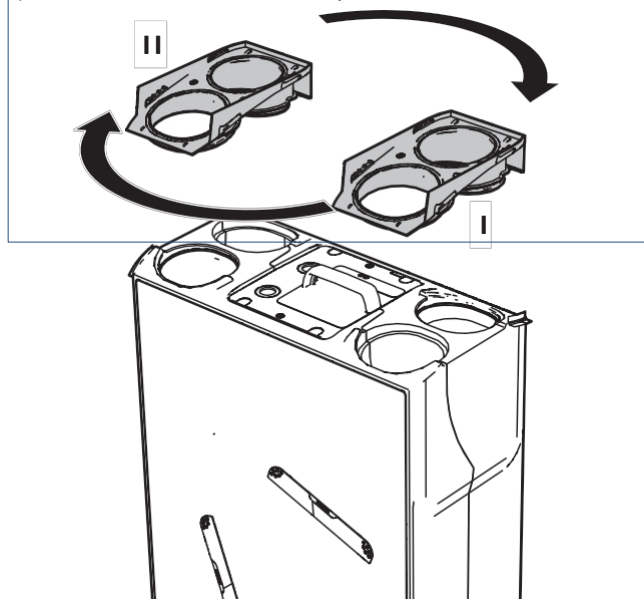
- a) Pull both ventilation unit adapters out of the EPP housing.



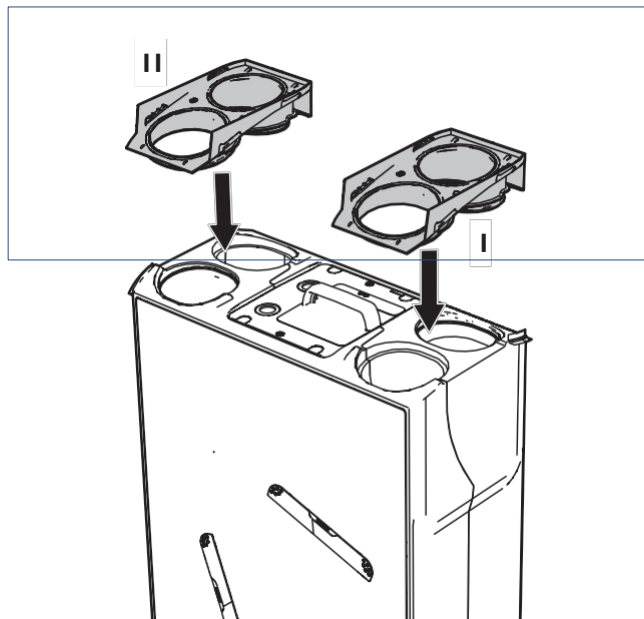
- b) Each adapter has one blue sealing ring at the bottom. Check that these rings are still correctly mounted on the adapters.



- c) Rotate both ventilation unit adapters 180°.



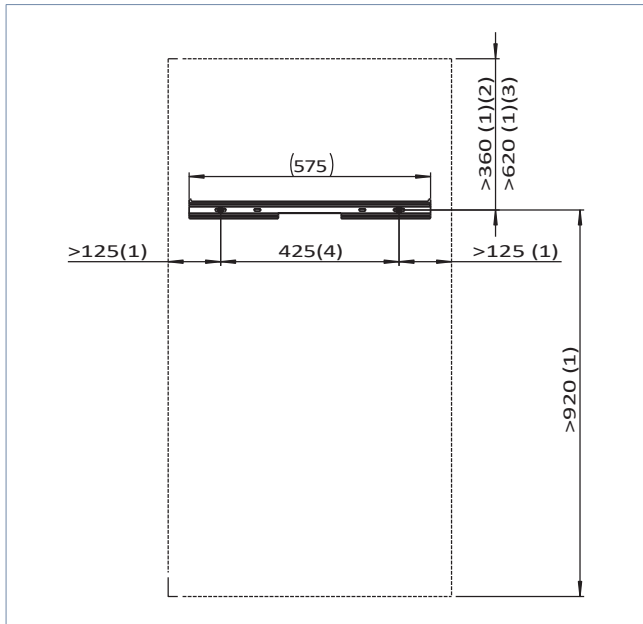
- d) Push the ventilation unit adapter that was on the left into the right side of the EPP housing and the ventilation unit adapter that was on the right into the left side of the EPP housing (so the adapters swap places!).



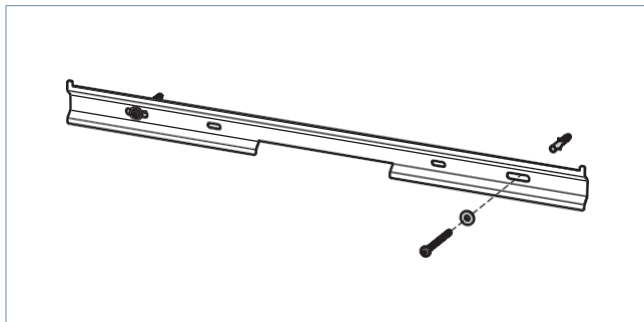
The ventilation unit is now 'rotated' and ready for further assembly.

3.2.4. Wall mounting

- a) Attach the mounting bracket to the wall using 6 mm dowels and screws (not supplied).



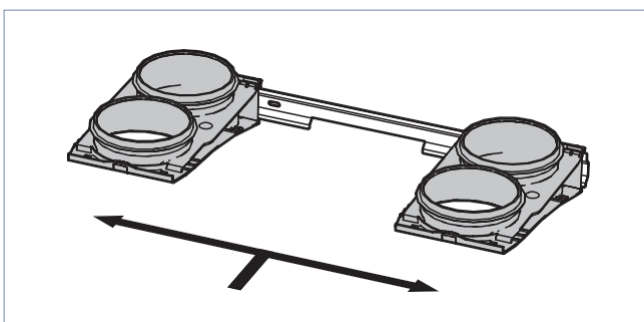
- 1) Minimum free space to be kept around the ventilation unit.
2) Installation without frost valve.
3) Installation with frost valve.
4) Centre distance drill holes.



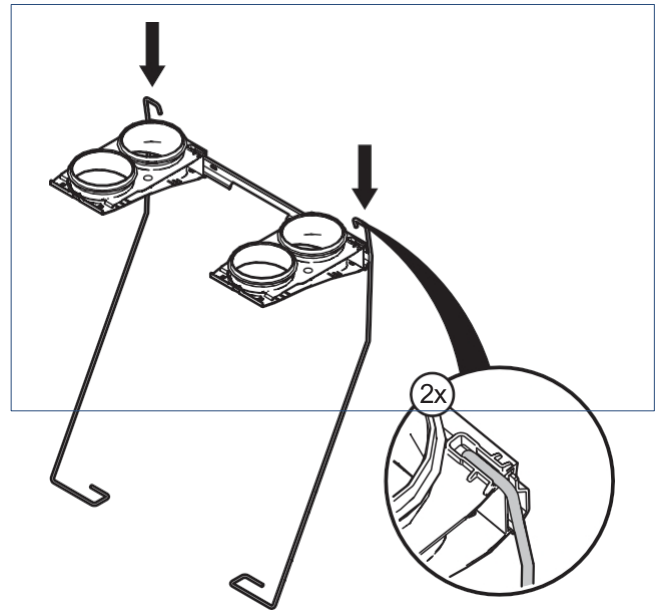
⚠ Caution!

Make sure the mounting bracket is mounted horizontally and level because of the condensate drain.

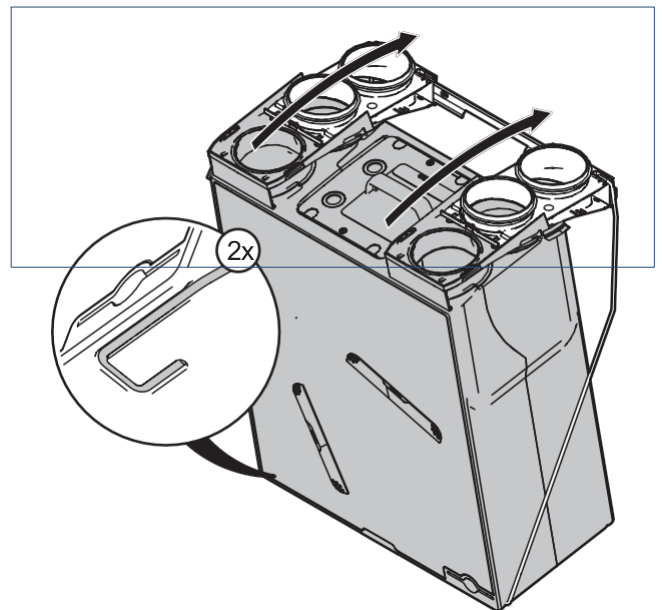
- b) Slide the channel adapters back onto the mounting bracket and push the adapters all the way to the left and right against the stopper to.



- c) Hook the two wire brackets on the outside of the duct adapters into the holes provided.



- d) Place the ventilation unit, slightly tilted forward, in the wire brackets. In the bottom of the EPP housing, there are recesses for this purpose where the threaded brackets fit exactly. Once the adapters are fully pushed together, a clear "CLICK" can be heard. The unit is then locked in place.



⚠ Caution!

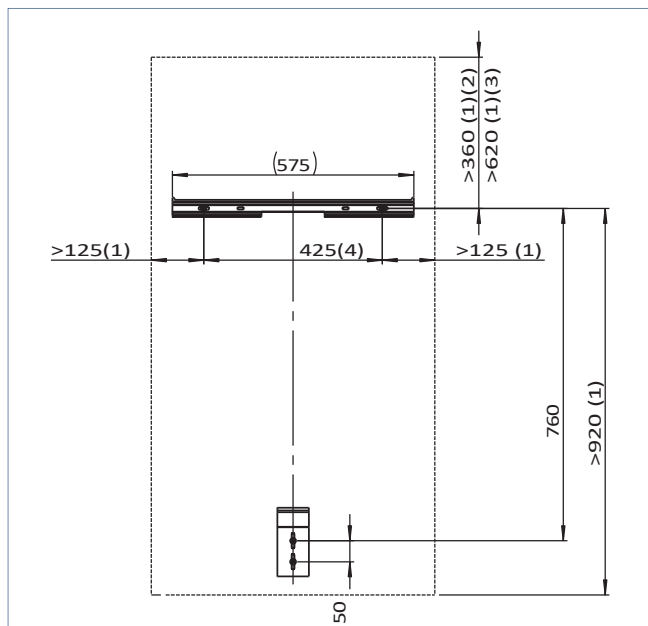
The ventilation unit adapters slide into the duct adapters in only one way.

3.2.5. Ceiling mounting

⚠ Caution!

With this mounting method, the ventilation unit needs a slope of at least 2° for the condensate drain to work properly. It is important that the condensate hose is also mounted with a slope towards the condensate drain.

- a) Attach the mounting bracket and ceiling bracket to the ceiling using 6 mm dowels and screws (not supplied).

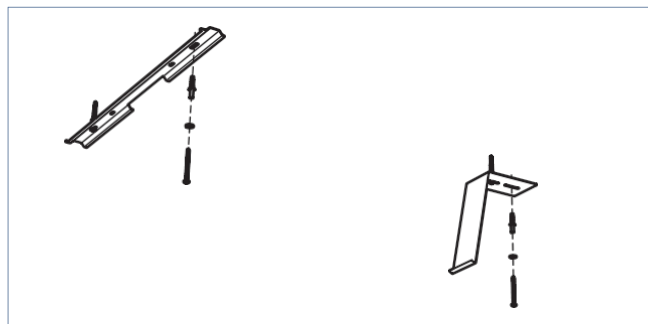


1) Minimum free space to be kept around the ventilation unit.

2) Installation without frost valve.

3) Installation with frost valve.

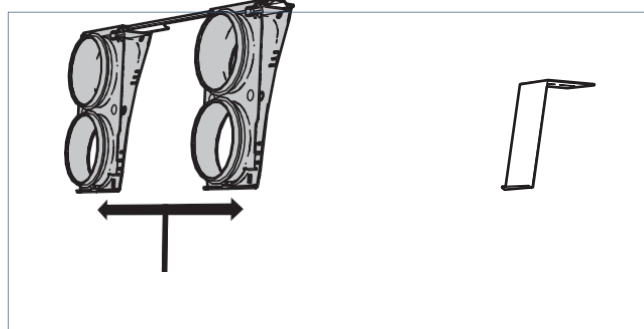
4) Centre distance drill holes.



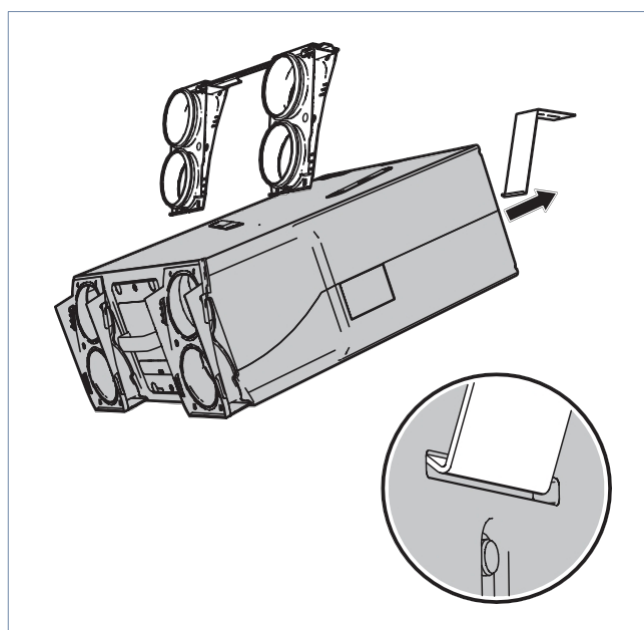
⚠ Caution!

The ventilation unit adapters slide into the duct adapters in only one way.

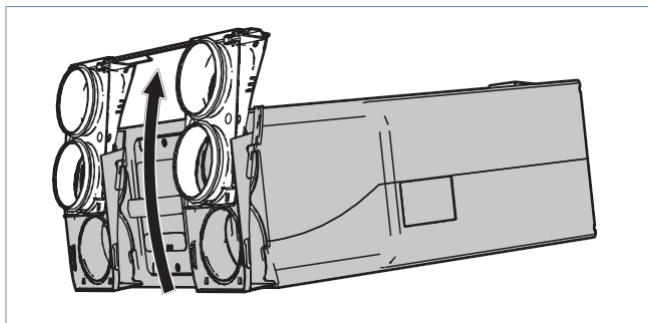
- b) Slide the channel adapters back onto the mounting bracket and push the adapters all the way to the left and right against the stop.



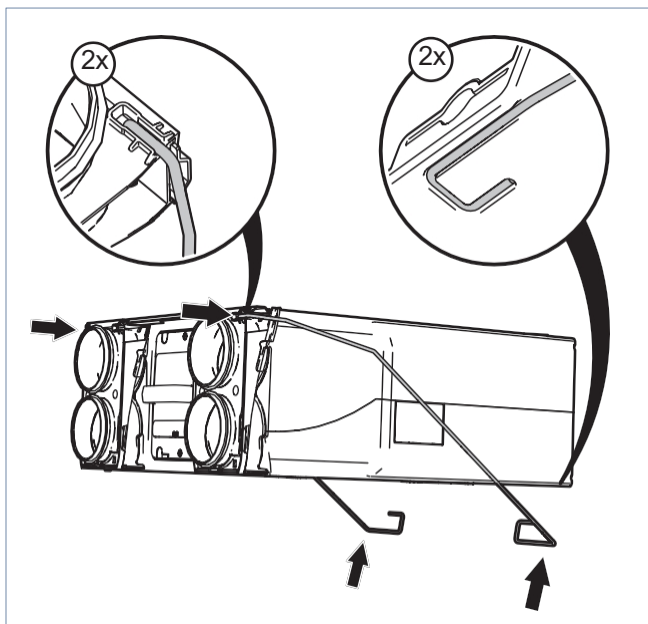
- c) Place the ventilation unit slightly tilted forward in the ceiling mounting bracket. There is a recess in the bottom of the EPP housing where the bracket fits exactly.



- d) Tilt the ventilation unit backwards such that the ventilation unit adapters slide under the duct adapters. Once the adapters are fully pushed together, a clear "CLICK" can be heard. The unit is then locked in place.

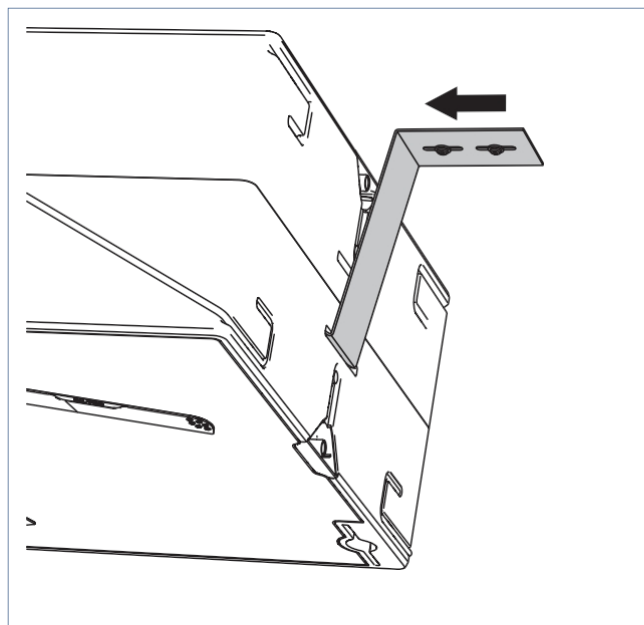


- e) Now attach both wire brackets. First hook each bracket on the outside of the duct adapter into the hole provided for this purpose, then clamp the underside of the bracket into the underside of the ventilation unit housing. The underside of the EPP housing has a recess for this purpose in which the bracket fits exactly.



Comment

You may need to adjust the position of the ceiling bracket. To do this, loosen the screws slightly and move the bracket in its slotted holes.

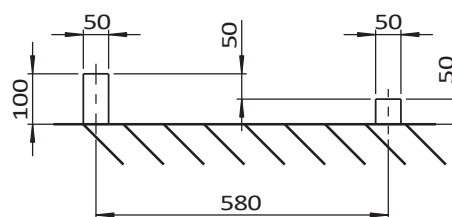


3.2.6. Floor mounting

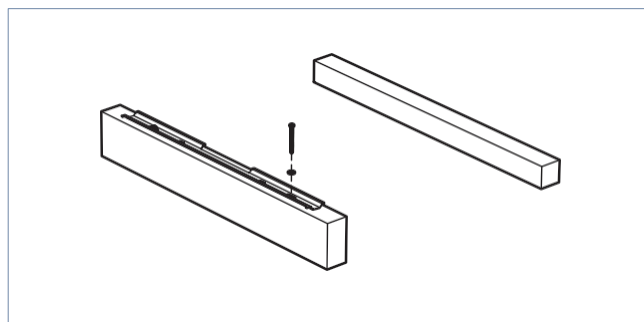
⚠ Caution!

With this mounting method, the ventilation unit needs a slope of at least 2° for the condensate drain to work properly. It is important that the condensate hose is also mounted with a slope towards the condensate drain.

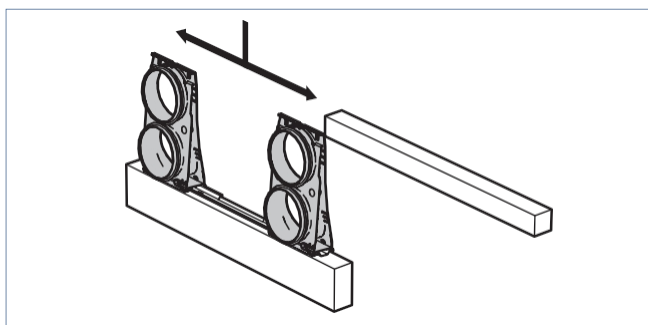
- a) On the floor, fix two wooden beams (not supplied) with minimum dimensions of 50x100x600 mm and 50x50x600 mm (not supplied) according to the diagram below.



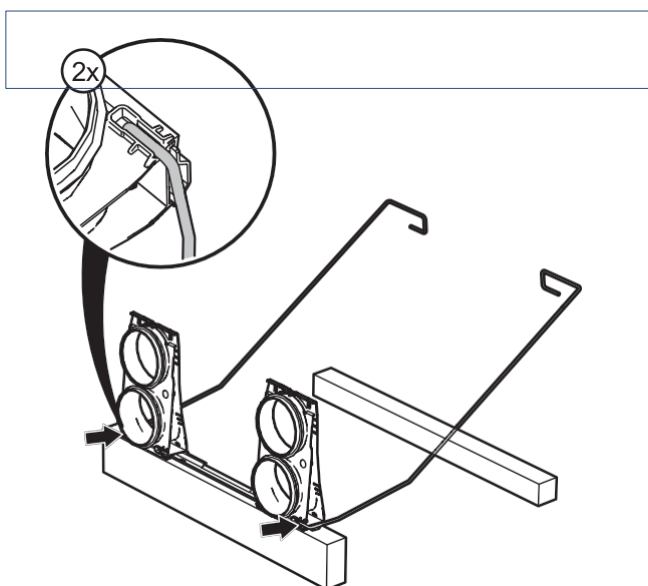
- b) Attach the mounting bracket with 6 mm screws (not supplied) to the highest of the two beams.



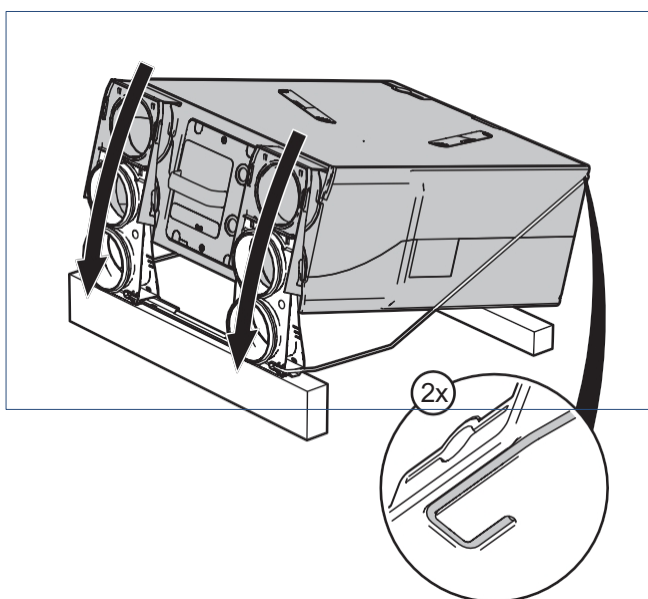
- c) Slide the channel adapters back onto the mounting bracket and push the adapters all the way to the left and right against the stop.



- d) Hook the two wire brackets on the outside of the duct adapters into the holes provided.



- e) Place the ventilation unit, slightly tilted forward, in the wire brackets. In the bottom of the EPP housing, there are recesses for this purpose where the threaded brackets fit exactly. Once the adapters are fully pushed together, a clear "CLICK" can be heard. The unit is then locked in place.



⚠ Caution!

The ventilation unit adapters slide into the duct adapters in only one way.

3.3. Connecting the channels

⚠ Warning!

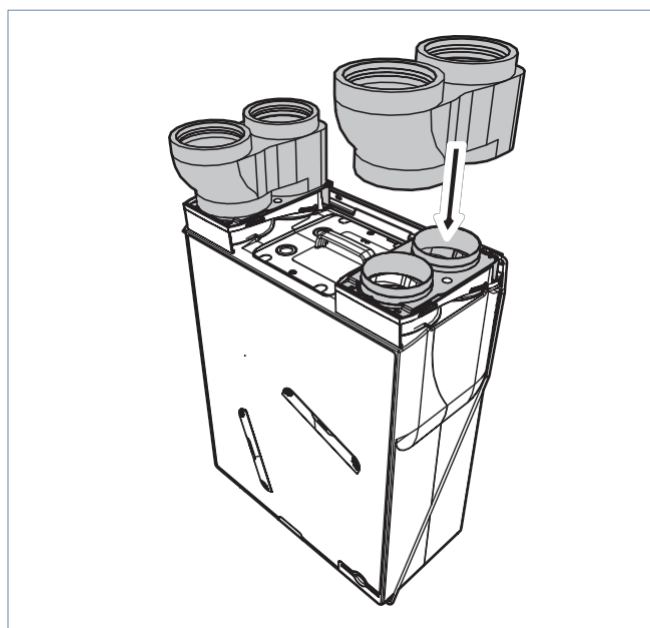
When the unit is used in stacked construction, backflow to the dwelling from the central air exhaust duct must be prevented at all times. In this case, a mechanical Back draught shutter should be used in the unit's discharge duct.

⚠ Caution!

To prevent condensation, the duct coming from outside and the duct going outside to the ventilation unit should be thermally and vapour tightly insulated.

The HRU ECO 200 is fitted with two duct adapters at the top. Each duct adapter has 2 spigots for connection to Ø125 mm or Ø150 mm ducts. To make this connection, 2 EPP couplers are available; these couplers simplify the connection and create an airtight connection between the ventilation unit and the ventilation ducts.

- a) Slide the 2 EPP couplers over the spigots of the channel adapters.



- b) Connect the home's ventilation ducts to the EPP fittings.

3.3.1. Supply air from outside



Through this spigot, the ventilation unit draws in outside air. This duct should be thermally and vapour tightly insulated to prevent condensation on the outside of the duct.

3.3.2. Supply air to dwelling (2x)



Through this spigot, the ventilation unit supplies heated air to the house. For optimum comfort, it is necessary to mount a silencer in this duct.

3.3.3. Exhaust air from home (2x)



Through this spigot, 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 located outside the thermal shell of the house (e.g. in an uninsulated attic), is it advisable to insulate the duct thermally and vapour-proof. For optimum comfort, it is necessary to mount a sound absorber in this duct.

3.3.4. External exhaust air



Through this spigot, the ventilation unit discharges exhaust air to the outside. This duct should be thermally and vapour tightly insulated to prevent condensation on the inside and outside of the duct. It is recommended to use a roof terminal that does not let in condensation or rainwater. If this is not the case, the duct system components between this outlet and the roof terminal must be mounted watertight. The unit drains any condensate water via the condensate drain.

3.4. Condensate drain connection

⚠ Caution!

If the ventilation unit is located outside the thermal shell of the house (e.g. in an uninsulated attic), the condensate drain up to the ventilation unit should be thermally insulated.

In winter, exhaust air from the house can condense in the heat exchanger. A drip tray with two condensate drain connections is integrated in the EPP housing for this purpose. For ceiling or wall mounting, the lower condensate drain must be connected. With wall mounting, there is a choice between the two condensate drains and at least one of the two condensate drains must be connected.

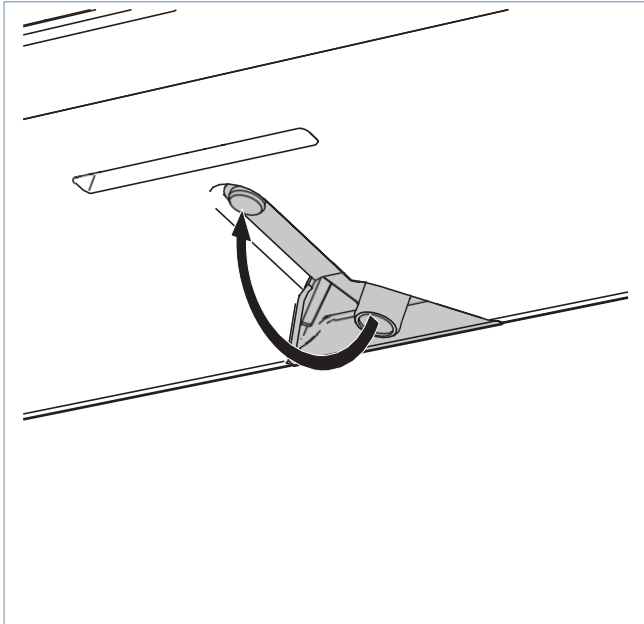
⚠ Caution!

Make sure the condensate hose is mounted from top to bottom to the extract.

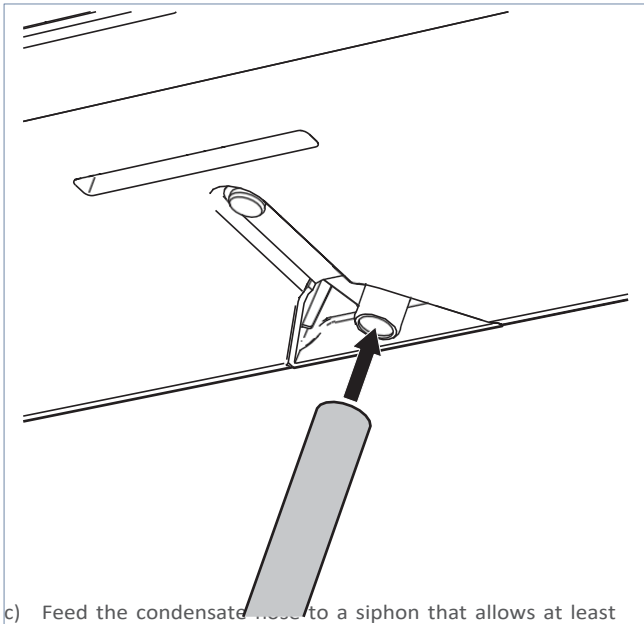
⚠ Caution!

The condensate hose must not have any sharp bends!

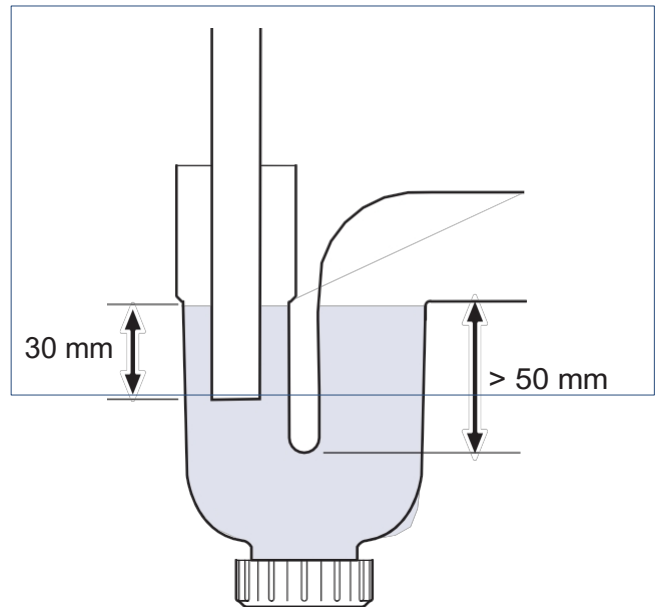
- a) Open the condensate drain by pulling off the lip.



- b) Mount the supplied condensate hose over the condensate drain spout.



- c) Feed the condensate hose to a siphon that allows at least 50 mm of water lock to be created. Make sure the hose extends deep enough into the siphon (at least 30 mm under water).



- (d) Fill the siphon to get a water trap.

3.5. Electric connection

The ventilation unit can be electrically connected with a euro plug.

3.5.1. Connection with euro plug

The E version of the HRU ECO 200 is equipped with a euro plug. Control takes place with wireless accessories.

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

⚠ Warning!

Never connect the device with an extension cord!

⚠ Warning!

Never connect the device with a damaged power cable!

4. Operation

4.1. Ventilation modes

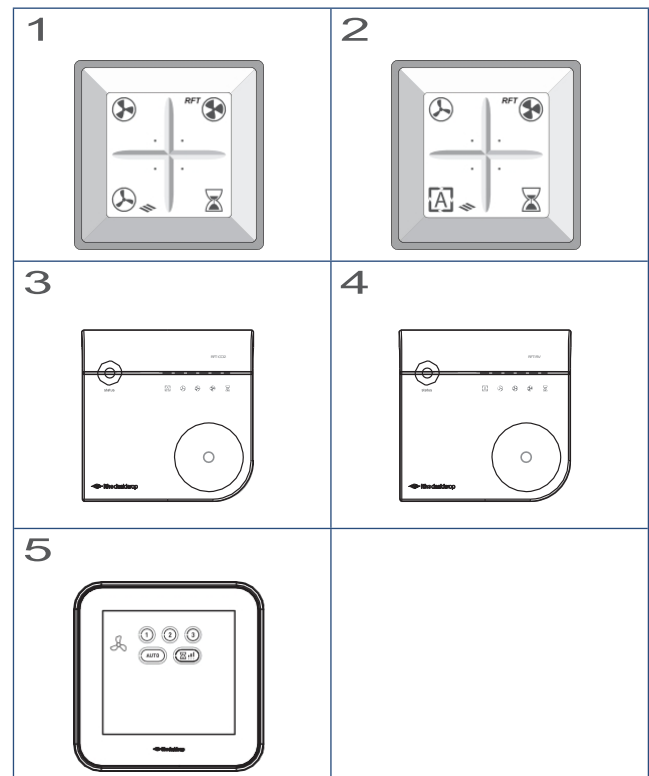
The ventilation unit can be set to one of the following modes as required:

- Position 1, **low setting**: when one person is present during the day or night or when no one is present.
- Position 2, **middle position**: for daytime or nighttime when more than one person is present.
or
Auto mode, **automatic mode**; control based on existing sensors (CO₂ , or RH). The capacity is automatically controlled between low and high. **Auto-Night** mode; control at night with an additional increase of the minimum setting.
- Setting 3, **high setting**: 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 1x: 10-minute high setting.
 - Press timer button 2x: 20-minute high setting.
 - Press timer button 3x: 30-minute high setting.

After the timer expires, the unit switches back to the last selected mode before the timer was turned on, unless this is the high mode. In this case, the unit switches to medium or low mode.

When used with sensors, the unit switches back to automatic mode after the timer expires.

4.1.1. Controls



Several modes are pre-programmed in the ventilation unit. A number of control switches are available for actively tuning to the correct setting/ventilation capacity:

1. Wireless control switch with three positions and timer function.
2. Wireless control switch with two modes, an automatic mode and timer function.
3. Wireless CO₂ sensor with control - 230V powered.
4. Wireless RH sensor with control - battery powered.
5. 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 options.

You can register up to 20 wireless control switches and/or sensors to an Itho Daalderop ventilation unit or system.

4.1.1.1. Operation with the climate thermostat Spider Base

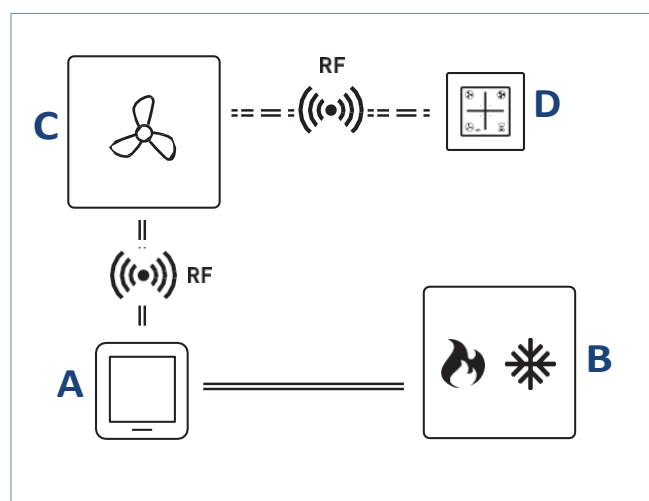
The Spider climate thermostat is a climate thermostat that controls the temperature of the room in which it is placed. Besides a central heating boiler, the thermostat is also suitable for controlling a heat pump that can cool the home in addition to heating ⁽¹⁾. The thermostat is connected OpenTherm® (wired or wireless⁽²⁾) or On/Off (wireless 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, in addition to the wireless control switches, via the thermostat.

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.



Schematic diagram connecting thermostat.

Legend	
A	Spider climate thermostat
B	Boiler / heat pump
C	Ventilation unit
D	Wireless control ventilation

4.1.2. Sensors

The ventilation unit is suitable to be controlled by the following available sensors:

- RFT-CO₂ sensor including control; 230V
- RFT-RV sensor with control - battery-operated

To log on or off a wireless sensor to the unit, see Logging on and off wireless controls and sensors on page 30.

5. Commissioning

5.1. Preparation

Prior to commissioning

- Must have the ventilation unit and accessories mounted.
- Must have the ductwork mounted.
- Should the condensate drain be mounted and the siphon filled so that a water trap is present.
- Should exterior and interior doors and windows be closed.
- Should there be sufficient headroom under internal doors.
- Should the adjustable valves in *all rooms* be opened to the maximum.

⚠ Caution!

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

⚠ Caution!

Before the wireless control switch can be registered, the ventilation unit must have been de-energised for 15 seconds!

⚠ Caution!

If the power fails during the commissioning phase, wait at least 2 minutes after the power is restored! This is because all ventilation units in the immediate vicinity are also in login mode for the first 2 minutes!

Comment

Each wireless control must be registered separately. You can register and commission a maximum of 20 wireless controls.

Comment

Should you not be able to complete the registration of the wireless controls within 2 minutes, you can put the ventilation unit back into registration mode by de-energising the unit and re-applying power after 15 seconds. Already registered controls will thereby remain registered on the ventilation unit.

5.2. Commissioning

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

- a) Make sure the ventilation unit has been de-energised for 15 seconds.
- b) Plug the ventilation unit into the wall socket.

After the mains power is switched on, the bypass damper of the ventilation unit is automatically calibrated. This procedure takes about 30 seconds. As the bypass damper goes all the way to the stop during this process, a rattling noise may be heard for a while.

If the ventilation unit is switched to setting 3 (high setting) within 2 minutes of the mains power being switched on, the ventilation unit will go into the commissioning mode. Here, the bypass damper is opened so that adjustment can always take place with the same resistance, regardless of the contamination of the filters.

After 2 hours, or as soon as the ventilation unit is switched to another position, the unit switches to normal operation. The bypass control then determines the position of the bypass damper.

- c) Register the existing wireless control switches and according to 'Register wireless control switch on page 30'.
- d) Register the optional sensors present according to 'Register wireless sensors on page 31'.

Comment

After powering up, the ventilation unit is in login mode for 2 minutes. However, during this time, the ventilation unit responds to all log-on requests within its range, so it is possible that another wireless control switch may be unwittingly logged on to your ventilation unit. As a result, your ventilation unit will respond not only to your own wireless control switch, but also to that of an adjacent residence.

⚠ Caution!

If a wireless control switch from an adjoining house is logged on to your ventilation system undesirably, you can solve this by logging off an already logged on control switch and logging it on again. Logging off one control switch will log off all control switches, including those of the neighbouring house.

5.3. Setting capacity

⚠ Caution!

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

Comment

If the capacity needs to be increased, first try opening the air valves further to reach the required capacity. Increasing the motor speed results in higher energy consumption and sound levels.

High and low settings are the same for supply and exhaust air because the ventilation unit has one motor driving both impellers.

On the top of the ventilation unit are two potentiometers for adjusting the minimum and maximum capacity c.q.

Low level and High level. Whether these capacities need to be adjusted will be apparent from the design calculations of the system or from flow measurements.



5.3.1. Setting high setting



If necessary, adjust the High setting with the right potentiometer. By default, this potentiometer is set to 125 m³/h. The adjustment range runs from 75 to 200 m³/h (at 100 Pa).

5.3.2. Setting low position



If necessary, adjust the Low setting with the left potentiometer. This potentiometer is set to 50 m³/h by default and is limited at the bottom, so that there can never be too little ventilation. The adjustment range is 25 to 75 m³/h.

Comment

The setting range of the low and high settings 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 any capacity difference between the three modes (low, medium and high mode)!

⚠ Caution!

Adjust the high setting potentiometer only when the ventilation unit is loaded (connected to a duct system). If you do this with an unloaded ventilation unit ('free blowing'), the current consumption may become too high. This will cause the current limitation on the board to engage, causing the motor to run erratically and jerkily.

5.4. Logging on and off wireless controls and sensors

5.4.1. Registering wireless control switch

Register a wireless control switch preferably near the ventilation unit.

- Interrupt the power supply to the ventilation unit by removing the plug from the wall socket.
- Wait for at least 15 seconds.
- Energise the ventilation unit by plugging it back into the wall socket.
- Within two minutes of energising the ventilation unit, press two diagonally positioned buttons on the control switch simultaneously.

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

5.4.2. Logging off wireless control switch

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

- a) Interrupt the power supply to the ventilation unit by removing the plug from the wall socket.
- b) Wait for at least 15 seconds.
- c) Energise the ventilation unit by plugging it back into the wall socket.
- d) Within two minutes of energising the ventilation unit, press the four control switch buttons simultaneously.

The ventilation unit will now no longer respond to the wireless control switch(s) and sensors. Logging off one control switch automatically logs off *all* wireless accessories.

Comment

After logout, all wireless control switches and/or sensors must be re-registered.

5.4.3. Logging in wireless sensors

Register the wireless sensor with the ventilation unit as follows:

- a) Interrupt the power supply to the ventilation unit by removing the plug from the wall socket.
- b) Wait for at least 15 seconds.
- c) Energise the ventilation unit by plugging it back into the wall socket.
- d) Ensure that a notification message is sent from the sensor within two minutes of the ventilation unit being powered up. For this, refer to the documentation supplied with the respective sensor.

The sensor is registered and the ventilation unit briefly varies in RPM to confirm the registration. The ventilation unit is now ready to respond to signals from the wireless sensor.

5.4.4. Logging off wireless sensors

Wireless sensors can only be logged off at the same time as a wireless control switch. Please refer to the relevant section in this manual.

5.4.5. Logging on and off Spider Base

For information on signing on and off the Spider Base climate thermostat, please refer to the documentation supplied with this product.

6. Inspection and maintenance

Correct operation of the ventilation system, performance and service life can only be guaranteed if the system is inspected and maintained according to the following requirements. These requirements are based on normal operating conditions.



Caution!

The user/consumer must not open the device!



Caution!

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

6.1. Inspection and maintenance schedule

Inspection scheme		User	Installer
Sound	Checking for abnormal noises from ventilation unit, valves and ducts	6 months	1 year
Filter ≥45% Coarse ISO16890 (G3)	Pollution control	1 week	-
Filter 65% Coarse ISO16890 (G4)		9 months	1 year
Filter 70% ePM1 ISO16890 (F7)		6 months	1 year
Ventilation unit	Checking for contamination and leaks condensed water	6 months	1 year
Motor module	Pollution/imbalance control	-	1 year
Bypass valve	Control of operation/pollution	-	1 year
Valves	Pollution control	3 months	1 year
Channels	Pollution control	-	4 years

Maintenance schedule		User	Installer
Filter ≥45% Coarse ISO16890 (G3)	Cleaning (first 3 months)	1 week	if required
	Replace (by G4 or F7)	3 months	if required
Filter 65% Coarse ISO16890 (G4)	Cleaning	9 months	if required
	Replace	18 months	if required
Filter 70% ePM1 ISO16890 (F7)	Cleaning	6 months	if required
	Replace	12 months	if required
Ventilation unit	Exterior cleaning	3 months	1 year
	Cleaning condensation hose	-	1 year
Motor module	Cleaning	-	4 years
Bypass valve	Cleaning	-	1 year
Valves	Cleaning	3 months	1 year
Channels	Cleaning	-	8 years

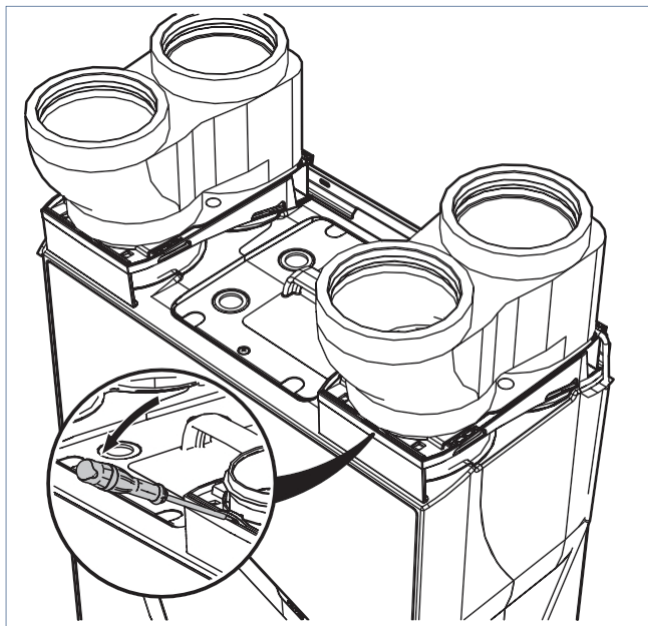
Comment

The heat exchanger of the ventilation unit is not removable. Under normal conditions and when using the right filters and replacing them on time, cleaning the heat exchanger is not necessary.

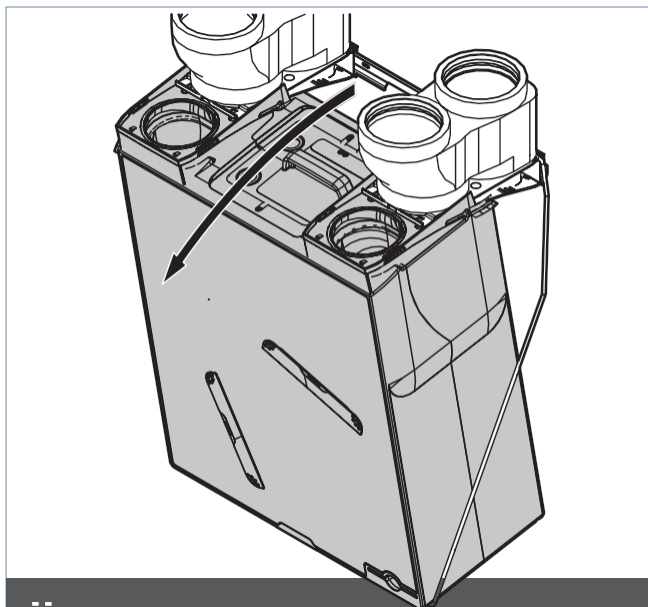
6.2. Inspect and clean fan

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

- Remove the plug from the socket or de-energise the ventilation unit.
- Unlock the channel adapters using a screwdriver.



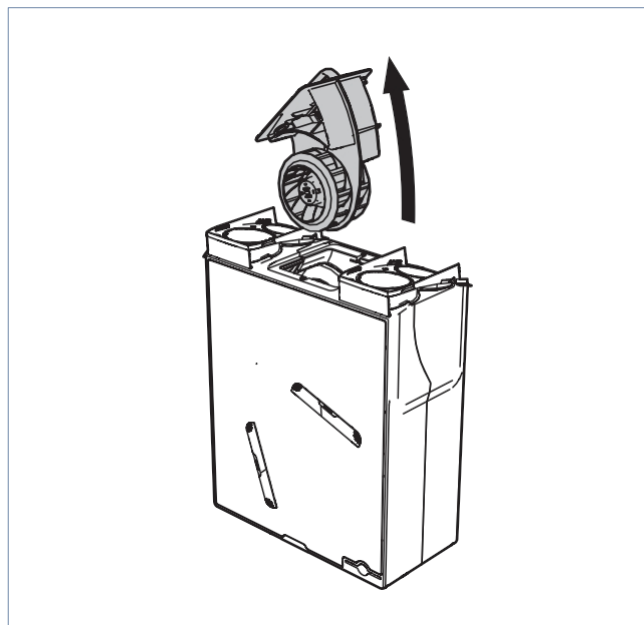
- Tilt the ventilation unit away from the wall, ceiling or floor. Then carefully remove the unit from the wire brackets and place it on the floor.



⚠ Caution!

When ceiling mounting, be careful that the wire brackets fall forward after removing the ventilation unit and may hit you!

- Loosen the screws attaching the motor module to the housing and remove the screws.
- Tilt the motor module with fans completely out of the ventilation unit. Use the handle of the motor module to do this.



- Inspect the impeller blades of both fans. Clean the impellers if necessary (see next step).
- Clean both impellers carefully with a Hoover if necessary.

⚠ Caution!

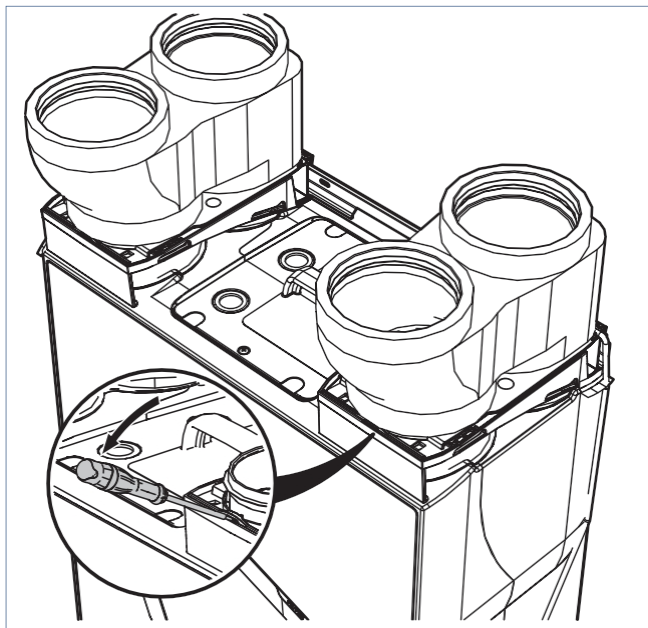
Ensure that the balancing clamps do not move or loosen during fan cleaning!

Impeller: If the impellers swing very much (and this has led to noise complaints), replace the entire motor module.

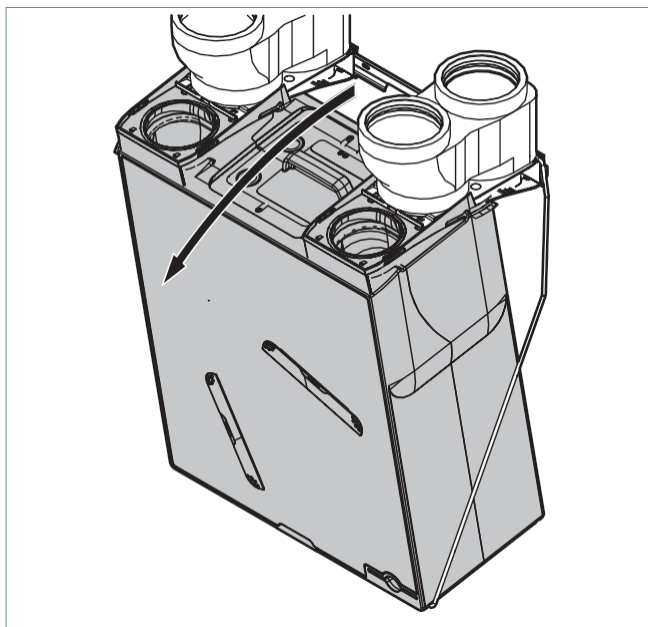
- Mount the motor module and ventilation unit in reverse order and recommission the ventilation unit by plugging it back in. For ceiling mounting, the wire brackets should be reinserted last (see also section 3.2.5 Ceiling mounting).

6.3. Inspect and clean bypass valve

- a) Remove the plug from the socket or de-energise the ventilation unit.
- b) Unlock the channel adapters using a screwdriver.



- c) Tilt the ventilation unit away from the wall, ceiling or floor. Then carefully remove the unit from the wire brackets and place it on the floor.

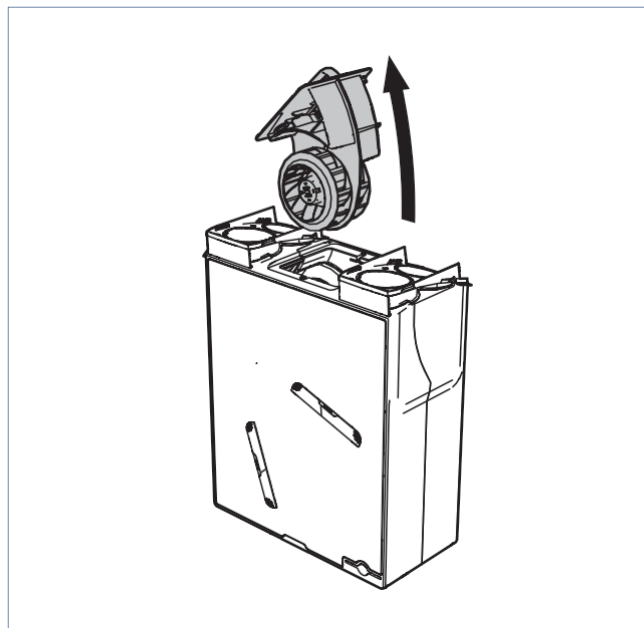


⚠ Caution!

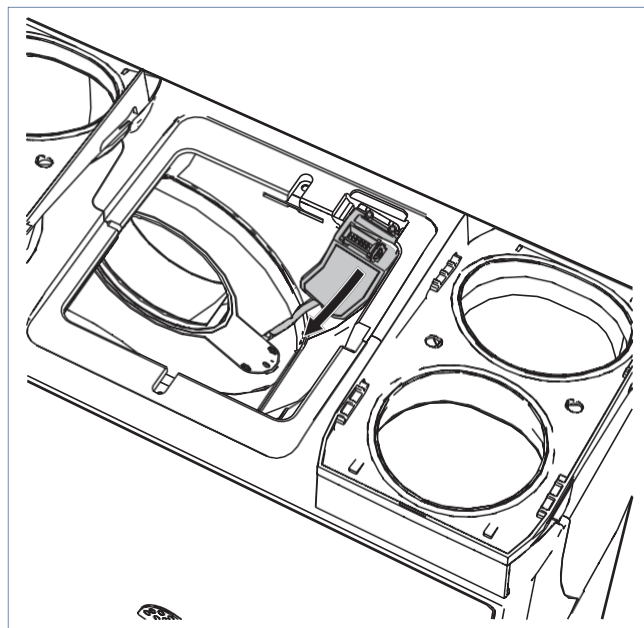
When ceiling mounting, be careful that the wire brackets fall forward after removing the ventilation unit and may hit you!

- d) Loosen the screws attaching the motor module to the housing and remove the screws.

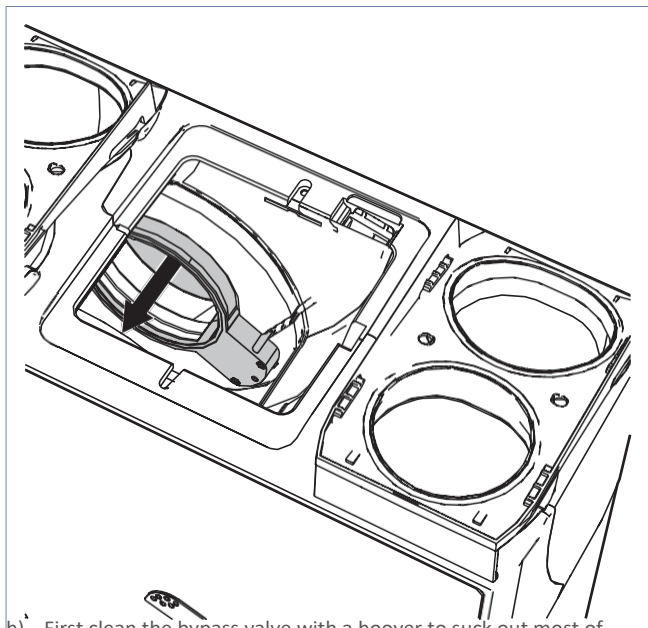
- e) Tilt the motor module with fans completely out of the ventilation unit. Use the handle of the motor module to do this.



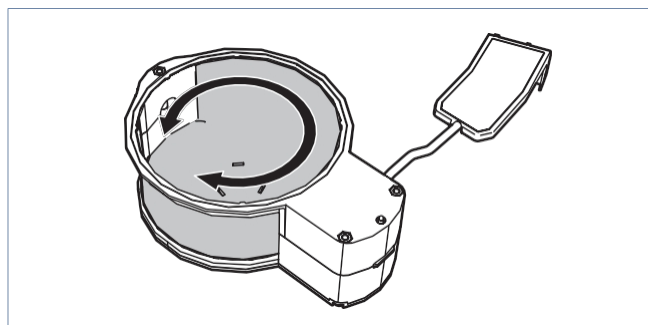
- f) Pull the yellow cable bracket out of the EPP housing and carefully remove the cable from the cable tray.



- g) Now carefully pull the bypass valve out of the EPP housing.
The valve contains 2 holes for a finger for this purpose.



- h) First clean the bypass valve with a Hoover to suck out most of the dust. You can then clean with a soft brush or a duster.
- i) Check that the valve is still free to rotate by rotating the valve section. If the valve cannot be moved, the bypass valve must be replaced as a whole.



- j) Mount the bypass valve, motor module and ventilation unit in reverse order and put the HRU ECO 200 back into operation by plugging it back in. For ceiling mounting, replace the wire brackets last (see also section Ceiling mounting).

⚠ Warning!

Push the bypass valve firmly when replacing it so that the valve lies flush with the EPP housing again. If the valve body protrudes, the fan may collide with it and be damaged.

6.4. Filter warning

The control of the ventilation unit uses a counter to keep track of when the filters need to be cleaned or replaced. If a dirty filter is detected, the ventilation unit sends an RF (wireless) message with this notification. The notification is displayed on the top of the unit by the orange flashing of the status LED. This notification can also be displayed via specific paired controls.

Comment

The status LED on the control panel indicates when the filters need to be cleaned or replaced.



A Status LED

6.5. Filter warning CO2 sensor or humidity sensor

When the ventilation unit detects that the filter needs to be cleaned or replaced, the unit sends a message to the operable CO₂ sensor, and RH sensor (if connected). The status LED on the sensor will then flash orange.

6.6. Filter warning Spider climate thermostat

When the ventilation unit detects that the filter needs to be cleaned or replaced, the unit sends a message to the Spider climate thermostat. The message **Replace Filter** will appear on the thermostat. The orange filter symbol will flash and the ventilation symbol will be on continuously after the thermostat is activated. The **SERVICE** button will also light up at this notification.

6.7. Inspecting, cleaning/replacing filters

Comment

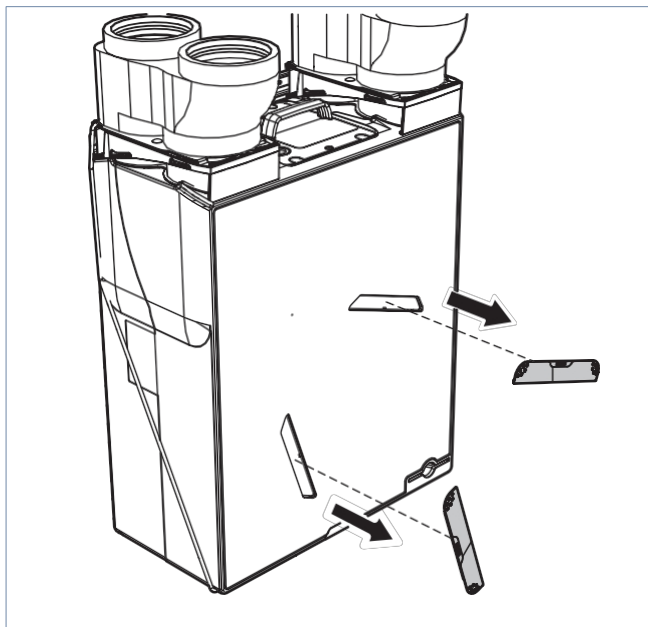
The HRU ECO 200 comes standard with G3 filters ($\geq 45\%$ Coarse ISO16890). These filters are very suitable as 'construction dust filters' in the first period after completion of the house. After about 3 months, these filters should be replaced by G4 filters (60% Coarse ISO16890) or F7 filters (70% ePM1 ISO16890).

⚠ Caution!

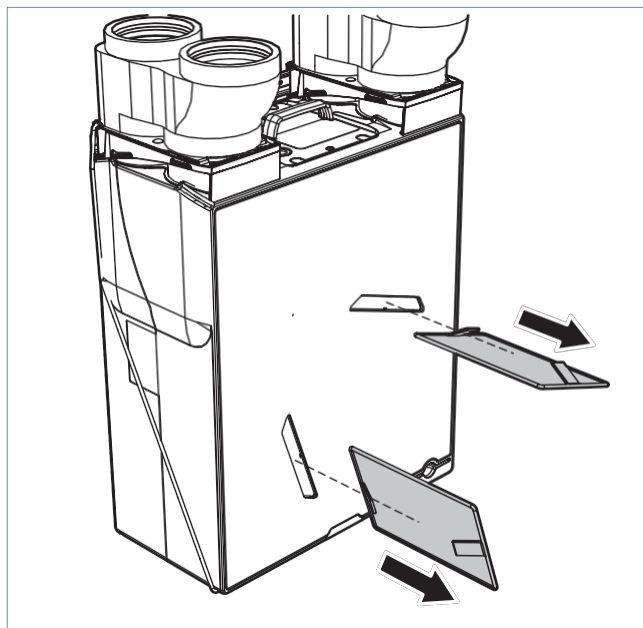
The filters can be cleaned once and should be replaced at the next service.

Inspect and clean or replace the filters as follows:

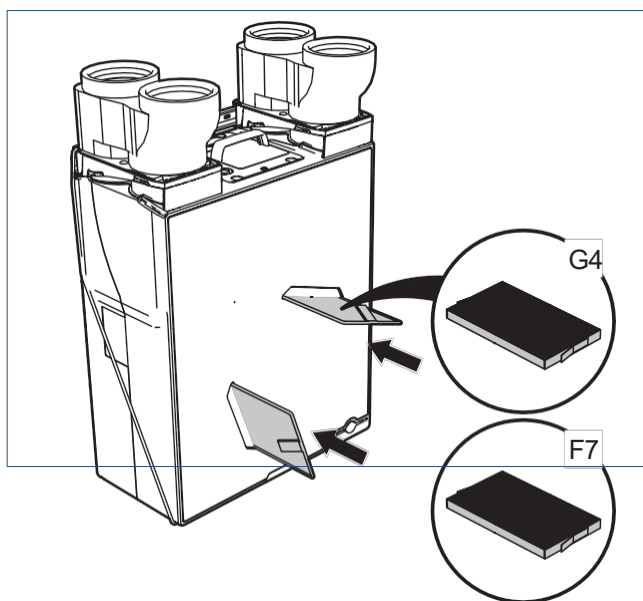
- Remove the plug from the socket or de-energise the ventilation unit.
- Pull the two filter caps out of the front plate.



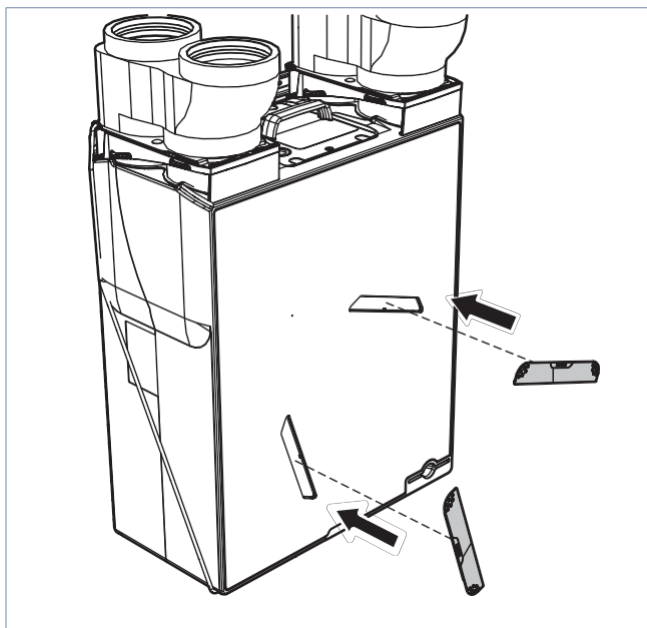
- Remove the filters from the ventilation unit. At the front of the filter sets are pull-tabs for this purpose.



- Visually inspect the filters for contamination. If the filters are dirty, they should be cleaned or replaced.
- Clean or replace the filters. Cleaning can be done by gently vacuuming the filters with a Hoover.
- Place the cleaned or new filters back in the ventilation unit.



g) Replace both filter caps in the front plate.



h) Restart the HRU ECO 200 by plugging it back into the wall socket.

6.8. Resetting filter warning

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

- To reset, *first* de-energise the ventilation unit, wait 15 seconds and then re-energise the unit.

After that, you have 10 minutes to reset the filter warning as shown below:

- 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 for between 5 and 7 seconds until the orange flashing stops and the status LED flashes green briefly 3 times.
- 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, keep the **Service** button pressed (for about 5 seconds) until the **Replace Filter** message disappears.

⚠ Warning!

The HRU ECO 200 must be fitted with the matching filters at all times! Without filters, the unit may suffer irreparable damage.

Comment

The filter warning cannot be reset on the device.

6.9. Inspecting/cleaning valves

Check the valves regularly (about once every 3 months) for contamination. In case of contamination, clean the valves.

Caution!

When removing or replacing valves and grilles, pay attention to protruding channel parts. These can be very sharp!

Caution!

When cleaning, do not adjust the setting of the valves and replace the valves in the channel of origin.

Clean the valves as follows.

In case of light 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 duct.

- a) Remove the foam sealing tape.
- b) Completely immerse the valves in a solution of a mild detergent (e.g. washing-up liquid or all-purpose cleaner). Optionally, the valves can be cleaned in the dishwasher.
- c) Wipe the valves with a cloth or soft brush.
- d) Dry the valves. R e p l a c e the foam sealing tape on the valve.
- e) Place each valve back in its channel of origin.

6.10. Inspecting/cleaning channels

It is advisable to c h e c k the ducts in the house once every 4 years. The ducts should be cleaned once every 8 years.

Warning!

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

7. Faults

The status LED on the ventilation unit flashes orange

Cause	Solution
a) The ventilation unit detects that the filters need to be cleaned or replaced.	● Clean or replace the filters. See Inspect, clean/replace filters . ● Then reset the dirt filter indicator. See for this: Resetting dirt filter indicator .

The status LED on the ventilation unit flashes red 1x and orange 1x

Cause	Solution
(a) The ventilation unit detects that the fan has a fault.	● Check that the fan is properly connected. Connect the fan properly. ● Check fan for contamination and clean as needed. ● Check the fan for defects and replace when necessary.

The status LED on the ventilation unit flashes red 2x and orange 2x

Cause	Solution
a) The ventilation unit detects that the return temperature sensor has an error.	● Check that the sensor is properly connected. Connect the sensor properly. ● Check the sensor for defects. Replace when necessary.

The status LED on the ventilation unit flashes red 2x and orange 3x

Cause	Solution
a) The ventilation unit detects that the supply temperature sensor has an error.	● Check that the sensor is properly connected. Connect the sensor properly. ● Check the sensor for defects. Replace when necessary.

The status LED on the ventilation unit flashes red 3x and orange 1x

Cause	Solution
a) The ventilation unit detects that the sensor has an error.	● Check that the sensor is properly connected. Connect the sensor properly. ● Check the sensor for defects. Replace when necessary.

The status LED on the ventilation unit lights green (6 sec) and flashes orange 1x

Cause	Solution
(a) Frost mode is active.	● This is not a malfunction. As soon as the temperature rises above zero, the unit automatically goes back to normal operation.

The status LED on the ventilation unit lights green (5 sec) and flashes orange 2x	
Cause	Solution
(a) The bypass mode is active.	● This is not a malfunction. The unit goes automatically returns to normal operation.

Fan no longer rotates	
Cause	Solution
(a) Frost control is active.	● Install a frost valve to mix warmer air from the home with the supply air from outside.
b) The plug of the ventilation unit is not in a wall outlet.	● Plug into a wall socket.
(c) There is no voltage at the socket.	● Restore power to the socket. ● Use a different wall socket.
d) Fan runs on/stuck due to extreme contamination.	● Clean the fan impeller. ● Note the balancing clips.
(e) The fan is faulty.	● Replace the entire motor module.
f) The PCB of the ventilation unit is defective.	● Replace the PCB and run the commissioning procedure again.

The ventilation unit makes noise	
Cause	Solution
(a) Fan runs on/stuck due to extreme contamination.	● Clean the fan impeller. ● Note the balancing clips.
(b) The fan is not balanced (anymore).	● Replace the entire motor module.
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 moving it from the wall/ceiling/floor to decouple.
d) The channels are not properly connected to the unit.	● Check the connections and make sure fixed ducts at the wall/ceiling/floor are bracketed.
e) The second condensate drain is open and not connected (whooshing sound).	● Close the second condensate drain by folding back the lip with plug and inserting it into the condensate drain to click.
f) The bypass valve is running (rattling noise).	● The bypass valve runs against the stop during the self-test after turning on the power. Wait 30 seconds and check if the noise has stopped. ● Inspect the valve. Clean it if it sticks due to dirt. Replace the valve if any other cause.

The ventilation unit does not respond (anymore) to the RF sensors (CO ₂ sensor 230V, RH sensor)	
Cause	Solution
(a) The system is not in Auto mode.	● If required, put the system in 2 / Car.
(b) Frost control is active.	● Install a frost valve to mix warmer air from the home with the supply air from outside.
(c) In the case of a 230V powered sensor: the sensor has no voltage.	● Plug in or connect the cable to the wall socket. If necessary, measure whether there is tension.
(d) In the case of a battery-powered sensor: the battery of the RF sensor is empty.	● Replace the battery.
(e) The RF sensor is not (no longer) logged on to the ventilation unit.	● Start the commissioning procedure again and register the RF sensor.
(f) The distance between the ventilation unit and the RF sensor is too long or the signal encounters too many obstacles.	● Try performing the login again. If this fails, move the RF sensor to a place where it faces fewer obstacles. If necessary, place an RF repeater.
(g) The brand names of the RF sensor and the ventilation unit do not match.	● Replace the RF sensor with an RF sensor of the same brand as the ventilation unit. ● Replace the motor module PCB by a printout with the correct OEM code.
(h) The RF sensor is faulty.	● Replace the RF sensor and report again.
(i) The PCB of the ventilation unit is defective.	● Replace the PCB and run the commissioning procedure again.

The ventilation unit does not respond (anymore) to the RF controls	
Cause	Solution
(a) Frost control is active.	● Install a frost valve to mix warmer air from the home with the supply air from outside.
(b) The battery of the wireless control switch is empty.	● Replace the battery.
(c) The wireless control switch is not (no longer) registered to the ventilation unit.	● Restart the commissioning procedure and report the wireless control switch on.
(d) The distance between the fan and the wireless control switch is too long or the signal encounters too many obstacles.	● Move the wireless control switch if the wireless signal is affected by the presence of a lot of steel/obstacles. If necessary, install an RF repeater.
(e) The brand names of the wireless control switch and the ventilation unit do not match.	● Replace the wireless control switch with one of same brand as the ventilation unit.
(f) The PCB of the ventilation unit is defective.	● Replace the PCB and run the commissioning procedure again.

When the low mode is activated, the fan will spin in high mode/when the high mode/timer mode is activated, the fan goes into low mode	
Cause	Solution
(a) An RF sensor has a fault.	● See table 'The ventilation unit does not respond (more) on the RF sensors'.
b) A temperature sensor of the ventilation unit itself is faulty.	● Replace the faulty temperature sensor.

The fan (for no apparent reason) suddenly starts running much harder or softer	
Cause	Solution
a) After using the timer, the unit switches on back to automatic mode.	● If desired, put the system in a other booth.
(b) The wireless control switch of an adjacent house is registered to <i>this</i> fan.	● D e - e n e r g i s e the ventilation unit for 15 seconds. Log off an already registered wireless control switch (and sensors) and re-register it (and sensors).

The ventilation unit is leaking water	
Cause	Solution
(a) The condensate drain is not connected.	● Connect either condensate drain.
(b) The condensate drain is clogged.	● Unplug the condensate drain and try the cause.
(c) The second condensate drain is open and not connected (whooshing sound).	● Close the second condensate drain by folding back the lip with plug and inserting it into the condensate drain to click.

The ducts 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 insulated.	● Make sure that t h e ducts going outside are thermal and be vapour-proof insulated.
b) There is no rain- and vapour-proof roof terminal applied.	● Replace the existing roof terminal(s) through rain- and vapour-tight penetration(s).

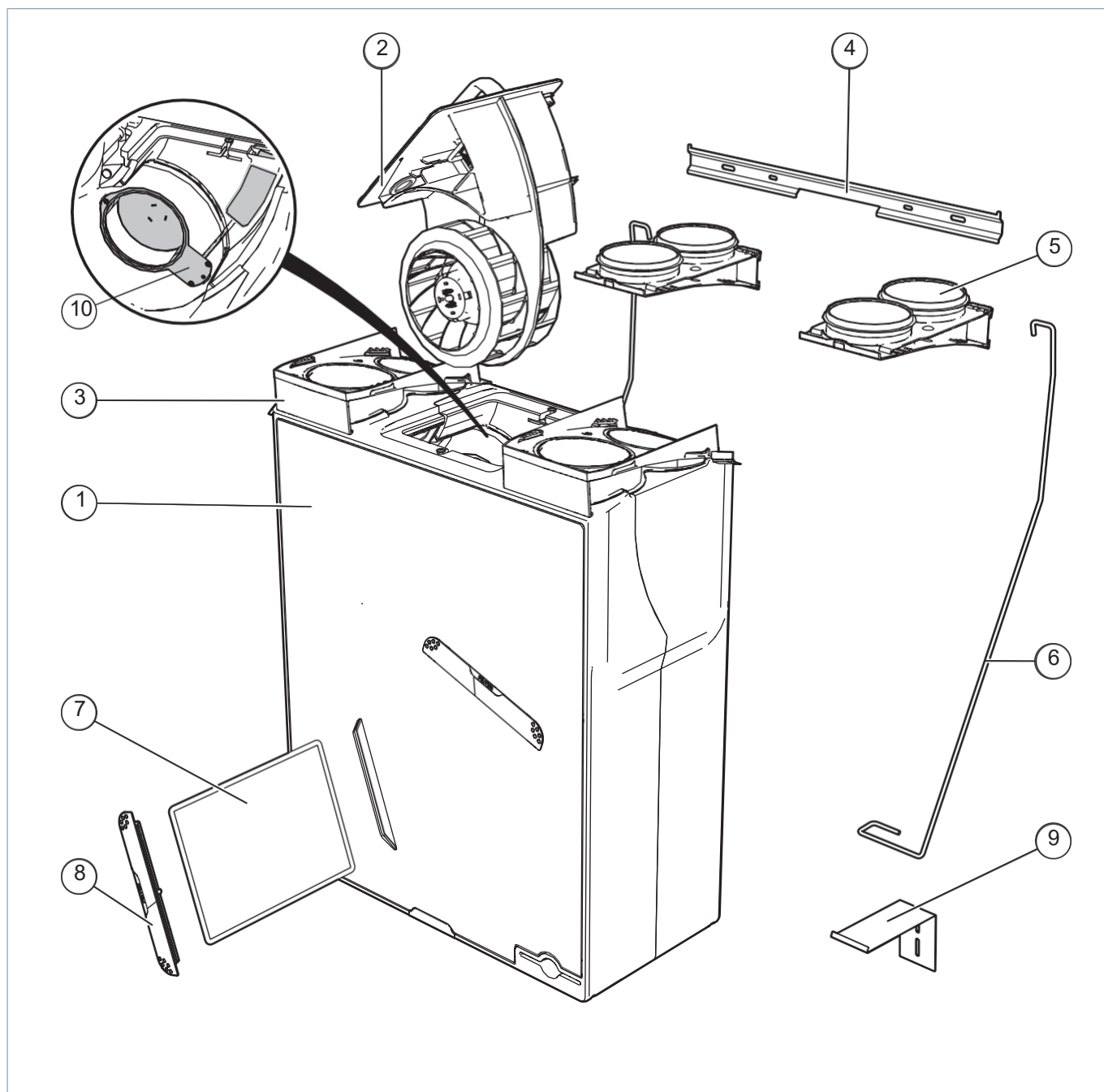
The valves make noise	
Cause	Solution
(a) No soundproofing hose is mounted in the channels to the house.	● Mount soundproofing hoses on the channels going to the property.
(b) The valves are not properly adjusted.	● Put the ventilation unit in the commissioning mode and adjust the system again.

The air quality in the house is not good/there is regularly no extraction of air to or from the house	
Cause	Solution
(a) One or both filters are dirty or clogged.	● Clean or replace dirty/dirty filters.
b) The valves are dirty/clogged.	● Clean the valves.
(c) The valves are not properly adjusted.	● Put the ventilation unit in the commissioning mode and adjust the system again.
(d) The fan is not running (anymore).	● See 'The fan is no longer running'.
e) The ventilation unit does not respond (anymore) to the RF sensors (CO ₂ sensor, RH sensor).	● See 'The ventilation unit does not respond (more) on the RF sensors'.

Cold air is fed into the house	
Cause	Solution
(a) The filter in the air outlet is clogged.	● Clean or replace the filter in the return air.
(b) The valves are not properly adjusted.	● Put the ventilation unit in the commissioning mode 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 as a whole if it stops working.
d) One of the temperature sensors is faulty.	● For a faulty supply air temperature sensor: replace the wiring harness with the temperature sensor in the engine module. ● In case of a defective exhaust air temperature sensor: replace the complete bypass module.

8. Service parts

8.1. Service parts



No.	E	P	Article number	Description	Order number
1	-	-	05-00520	Motor module complete with euro plug	1
2	-	-	05-00519	Motor module circuit board	1
3	-	-	05-00041	Engine module wiring harness incl. outside T-sensor	1
4	-	-	545-5118	Power cable + euro plug	1
5	-	-	05-00042	Bypass valve complete	1
6	-	-	05-00140	Filter set G3 ≥45% Coarse ISO16890	1
	-	-	05-00141	Filter set G4 60% Coarse ISO16890	1
	-	-	05-00142	Filter set F7 70% ePM1 ISO16890	1
7	-	-	05-00043	Filter caps, set of 4	1
8	-	-	05-00044	Duct adapter EPP side incl. sealing, set of 2	1
9	-	-	05-00045	Duct adapter channel side incl. sealings, set of 2	1
10	-	-	05-00046	Sealing duct adapter channel side, set of 4	1
11	-	-	05-00047	EPP casing, including heat exchanger	1
12	-	-	05-00048	Wire brackets, set of 2	1
13	-	-	05-00185	Ceiling mounting bracket	1
14	-	-	05-00049	Mounting bracket	1

9. Warranty

A standard manufacturer's warranty of two years applies to all Itho Daalderop products. Within this period, the product or its parts will be repaired or replaced free of charge.

Provisions and exclusions are included in our warranty terms and conditions.

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

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

10. Statements

EU declaration of conformity

This declaration of conformity is provided under the full responsibility of: Itho Daalderop

Group BV.
Lingewei 2
4004 LL
Tiel
Netherlands

- Ventilation unit with heat recovery HRU ECO 200 E
- Ventilation unit with heat recovery APure Vent D175

The product complies with the relevant Union harmonisation legislation.

Directive 2009/125/EC (Ecodesign)	
Regulation (EU) 1253/2014	
Delegated regulation (EU) 1254/2014	
Regulation (EU) 2017/1369	
Directive 2011/65/EU (RoHS)	
Directive 2014/53/EU (RED)	- EN 60335-1:2012 + AC11:2014 + A11:2014 + A13:2017 + A1:2019 + A2:2019 + A14:2019 - EN 60335-2-80:2003 + A1:2004 + A2:2009 - EN 62233:2008 - EN 62479:2010 - EN 301 489-1 V2.2.3:2019 - EN 301 489-3 V2.1.1:2019 - EN 55014-1:2017 - EN 55014-2:2015 - EN 61000-3-2:2014 - EN 61000-3-3:2013 + A1:2019 - EN 300 220-1 V3.1.1:2017 - EN 300 220-2 V3.2.1:2018

The notified body Telefication B.V. (NB number 0560) carried out the EU type examination under conformity assessment procedure Modules B + C and issued the certificate with number : 212140693/AA/00

Signed for and on behalf of:

Tiel, 1 February 2022.



Coen Schut
Innovation Manager Ventilation

Netherlands

E info@ithodaalderop.nl

I www.ithodaalderop.nl

Consumer

Consult your installer or service organisation. I
www.ithodaalderop.nl/dealerlocator

Professional | Technical helpdesk T

088 427 57 70

E idsupport@ithodaalderop.nl

Belgium

E info@ithodaalderop.be

I www.ithodaalderop.be

Consumer/Professional T

02 207 96 30

Service requests only

E service@ithodaalderop.be