

FLUX+ FLAT

INSTALLATION & MAINTENANCE MANUAL



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GENERAL

1 • General

The RENSON® Flux+ Flat is a balanced ventilation system with heat recovery. The unit brings fresh air into the home mechanically and removes polluted air from the home mechanically using 2 integrated fans.

The Flux+ Flat is a professional product and must only be installed by a qualified installer.

There are 3 manuals for the Flux+ Flat: two for the installer and one for the user.

- The **installation manual** has all the necessary information for installation, troubleshooting and maintenance.
- The **quickguide** provides a clear step-by-step plan for the installer to assemble the device.
- The **user manual** has all the necessary information for the use of the unit, simple maintenance and troubleshooting.

1.1 • Purpose of this manual

This manual contains instructions and recommendations for correctly sizing the Renson Flux+ Flat Unit and then safely installing, commissioning and maintaining it.

Please read this manual carefully before connecting or maintaining the unit.

1.2. Training

- Only a certified installer may install, operate and maintain the unit unless otherwise stated. The proper functioning of the Renson Flux+ Flat largely depends on correct installation and start up. Our experienced trainers are ready to provide you, the installer, with all the training and associated tips & tricks.

More info: www.renson.eu/opleidingen



1.3 • Version control

This manual is only available electronically as a PDF file.

RENSON® reserves the right to make technical changes to the products described. The most recent manual is available for download at www.renson.eu.

1.4 • Language version

This Dutch version is the original version. Any other language versions are translations. In case of incompatibility, the Dutch version is the standard version.

1.5 • Using the manual

This manual starts with a general description of the Renson Flux+ Flat Unit. Read these chapters first to familiarise yourself with the function and location of the most important parts.

This is followed by Renson Flux+ Flat Unit procedures:

- to install.
- to calibrate.
- to commission.
- to maintain.

1.6 • Used symbols



Tip: non-essential, useful information.





Warning: Failure to perform the procedure correctly may result in undesirable results or damage to the Renson Flux+ Flat Unit.



Danger: Failure to perform the procedure correctly may result in personal injury.

1.7 • Abbreviations

The following abbreviations are used in this manual:

Abbreviation	Meaning
CERTIFICATION	
Belgian General Regulations for Electrical Installations (AREI)	Algemeen Reglement op Elektrische Installaties [General Regulations for Electrical Installations]
EMC	Electro-Magnetic Compatibility
AIRFLOW WTW SYSTEM	
EHA	Exhaust air, polluted extraction air that is blown outside
ETA	Extracted air, polluted extraction air from the interior
ODA	Outdoor air, fresh air that enters the home
SUP	Supply air, fresh air that is blown into the interior
HA 	House connection (ETA & SUP) – is indicated by a house
BA 	Outdoor connection (EHA & ODA) – is indicated by a tree
MATERIALS WTW SYSTEM	
EPP	expanded and thermally insulating Polypropylene
SI UNITS AND GENERAL CONCEPTS	
Pa	Pascal, unit for pressure (1 Newton on 1 m ²)
ppm	Parts per million, a measure of concentration
CO ₂	Carbon dioxide, a measure of human presence
VOC	Volatile Organic Components, a measure of pollutants in the home
WTW	Heat recovery, a method for reusing heat

1.8 • Definitions

The following terms are used in this manual:

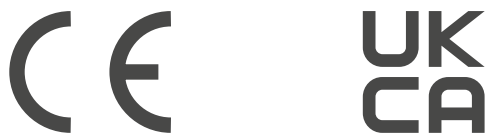
Term	Meaning
System D	Ventilation system with mechanical supply + mechanical extraction of air
Unit	Renson Flux Flat
Ventilation system	The unit with associated pipes and control elements
Pipe pressure	Every pipe system in a home has a characteristic pressure drop (pipe characteristic).
Plenum box	Distribution box to achieve both the supply and extraction air in the different rooms.
Valves	Adjustable openings that facilitate both supply air and extraction air in the different rooms.
Pulsion/Supply/SUP	Supplying air into the home
Extraction/ETA	Extracting air from the home
Bypass	A classic bypass provides an option to bypass the heat exchanger if no cold or heat exchange is necessary.
Thermal efficiency	The efficiency of the transfer of the heat or cold will result in thermal efficiency
Condensation drainage point	Depending on the temperature and humidity, the exchange of air flows and heat transfer results in the production of condensation, and the moisture must be removed via a condensation drainage point.
Filters	To protect the valuable unit (heat exchanger, fans, sensors), it is necessary to replace the 2 filters in the unit at regular intervals (see maintenance chapter).
Frost protection	If necessary, the unit will operate with imbalance at critical temperatures to prevent the heat exchanger from freezing.
Installation on the ceiling	The supplied Smart Fixation can be used to mount the Renson Flux+ Flat to the ceiling in a user-friendly manner for easy maintenance after installation.
Installation on the wall	The Renson Flux+ Flat can be hung on the wall in 2 different ways. The unit can be hung in the vertical method, again depending on how you want pulsion and extraction, you can then rotate the unit another 180 degrees. Another option is to hang the unit in horizontal mode in order to use as much free space as possible above or below the unit.
Vertical wall installation	When the unit hangs on the wall with 1 of the short sides at the top. Which side is chosen depends on which side one wants to place the pulsion or extraction. HA (🏠) always sits at the top, BA (🌳) at the bottom.
Horizontal wall installation	If the unit is placed on the wall with the electronics housing at the top, the unit is installed horizontally. The electronics tray must always be at the top for this installation method.
Constant Flow	Regardless of the variation in pressure due to indoor conditions or contamination of filters, the unit will always ensure the desired air flow rates are used. This also ensures the thermal efficiency is optimal at all times.

INSTALLER

2 • Set up and installation (Safety)

2.1 • General regulations and safety regulations

The unit in this packaging complies with the prescribed CE safety regulations and UK Conformity Assessment.



Flux+ Flat complies with the legal requirements imposed upon electrical equipment.

Belgian General Regulations for Electrical Installations (AREI)

The socket to which you connect the unit to the mains voltage must comply with the provisions of the AREI.

2.2 • Safety regulations

NOTE

- Ignoring the warnings below may result in malfunction or loss of performance as well as fire, electric shock or injury.
- A unit that has not been installed in accordance with the installation instructions is not covered by the guarantee.

- This unit is intended for indoor use in a household environment. If you have a different situation, please contact RENSON®.
- Only an installer who has completed a Renson FLUX training course may install, connect, commission and carry out maintenance on the Flux+ Flat other than described in the user manual.
- The Flux+ Flat may NOT be placed in areas where the following are present or may occur:
 - Excessively greasy atmosphere
 - Corrosive or flammable gases, liquids or vapours
 - Room air temperatures above 40°C or lower than 0°C (the Flux+ Flat must be installed in a frost-free place.)
 - Relative humidity higher than 90% or outdoor installation
- The unit and associated parts and controls must not be used in places where they may be subject to water jets.
- All cabling must be installed by a qualified person.
- When installing, take into account the conformity of noise requirements according to the applicable standard (Belgium: NBN S01-400-1, Section 8).
- For the supply of fresh air and extraction of polluted air, the supply and extraction of the outside air must be provided via the roof (roof ducts) or via the wall (wall ducts). You must ensure the roof penetrations are sufficiently water-tight and that the pressure drop is kept to a minimum.
- Only appropriate RENSON® accessories can be used with the unit.
- Changes to the Flux+ Flat are not authorised.
- The unit cannot be opened without tools. Opening the unit may result in damage to the unit and/or personal injury.
- Observe national/regional/company regulations when working in confined spaces.
- The Renson Flux+ Flat must be installed in accordance with the construction, safety, and installation provisions generally and locally applicable in the municipality/city and all other bodies.
- If the power cord is damaged, it must be replaced by the manufacturer, its service representative or similarly qualified persons in order to avoid a hazard.
- The Renson Flux+ Flat is constructed in such a way that it is impossible to come into contact with moving or live components during normal usage and without performing specific actions.
- The device must be installed so that it is touch-proof. This means, among other things, that under normal operating conditions no one can reach moving or live parts of the fan unit without taking a conscious action, such as:
 - Dismantling the cover plate.
 - Disconnecting an air duct and/or cover plate on the supply or discharge points during normal use.

NOTE

- The ventilation system must function permanently, which means the Flux+ Flat must never be switched off (legal obligation according to NBN D50-001 Chapter 4.2 System D).
- The unit is only suitable for use in domestic homes. The unit is not suitable for industrial use, such as in swimming pools or saunas. Installation in an industrial environment may damage the unit.

2.3 • System in operation

- It is the installer's job to inform the user how the unit works and how it can be maintained.
- Only use the product for the applications for which it is designed as stated in the manual.
- Maintenance instructions must be followed precisely to prevent damage and/or wear.

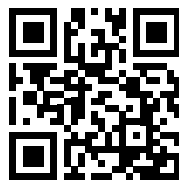
2.4 • Specific measures

! NOTE

Ensure Renson Flux+ Flat remains easily accessible at all times so maintenance and servicing can be carried out easily.

- The Renson Flux+ Flat complies with the legal requirements imposed upon electrical equipment.
- Only appropriate RENSON® accessories and controls can be used with the fan unit.
- Use RENSON® Easyflex air ducts to guarantee air transport according to the best air tightness class D.
- Provide RENSON® extraction and pulsion valves. This results in lower energy consumption and lower noise production from the fans.
- Provide RENSON® Aludec air flexibles or Acoudec air flexibles if you require acoustic damping. Provide Isodec as air flexibles with thermal insulating properties.
- Provide RENSON® roof and/or wall duct to minimise pressure drop. This results in lower energy consumption and lower noise production from the fans.
- The installer must ensure that the air exhaust of the fan unit is placed at a sufficient distance from the exhaust and supply of the heating boiler and sanitary air vent in accordance with the applicable regional regulations.
- It must not be possible to touch the fan with your hand. Therefore, an air duct network must always be connected to Renson Flux+ Flat before putting it into operation. The minimum duct length is 0.5 m.
- When Renson Flux+ Flat is combined with compartmentalisation products to reduce the risk of fire spreading: Ensure the fire damper/butterfly valve/cuff/... has sufficient free air passage to limit pressure loss. The incorrect choice of type can lead to poor functioning of the Renson Flux+ Flat.

Consult our website www.renson.net (products → mechanical ventilation) for more information about our products.



2.5 • Electrical

NOTE

- Connect the unit to a 230 VAC 50/60 Hz power supply. Any other power connection will cause damage to the unit.
- The unit must function continuously, i.e. based on the applicable legislation (NBN D50.001), and permanent ventilation must be provided. In order to ensure proper functioning of this sensor-controlled system, the unit must never be switched off.
- Always switch off the power supply to the unit before you start working on the ventilation system. Leaving the unit open while it is operating could result in personal injury. Make sure the unit cannot be switched on accidentally. The unit can be disconnected from the power supply by removing the power cord from the wall socket or by switching off the fuse. If there is any doubt, check whether this has actually happened.
- If no permanent cabling is provided and the power cord is damaged, it can only be replaced with a power cord provided by Renson. If this is not respected and different cabling is used, all guarantee and/or liability for the poor functioning of the product will be void.

Electronic components

Static electricity can cause damage to electronics.

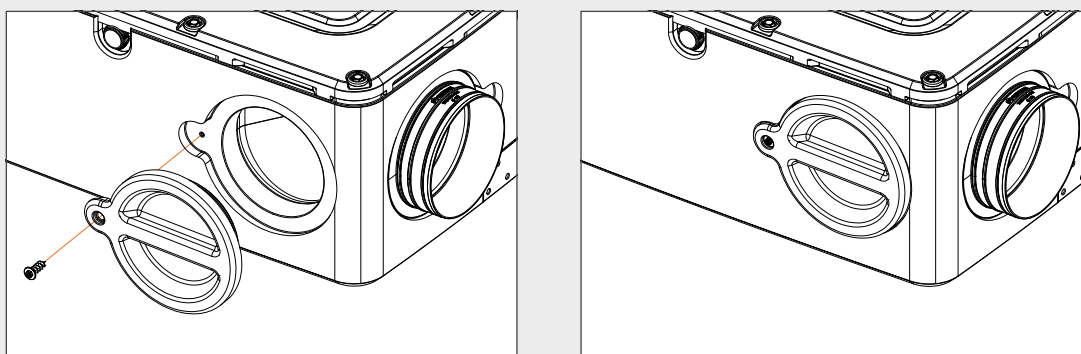
NOTE

When working with electronics, always take protective measures such as wearing a grounded wrist strap.

2.6 • Moving parts

NOTE

- Always connect air ducts of at least 500 mm to the unit before connecting the power supply. This means no one can touch the motor when the unit is in operation.
- Each intake and extraction has 2 potential connections. A connection that is not in use must be sealed with a cap in combination with a screw. After completion of the installation, the installer must have closed all the openings with either a tube or a cap in combination with a screw.



After installation, all components that could cause personal injury are safely contained within the housing. You can only open the housing with tools.

2.7 • Personal Protective Equipment (PPE)

- Wear a helmet and safety shoes when certain parts are lifted or hoisted during installation. It is important that you wear a helmet, even when the unit is placed on the ceiling.
- Always wear gloves when handling metal parts such as the mounting plate as they may have sharp edges.
- Wear an anti-static wrist strap when working on a circuit board.

2.8 • Privacy Statement

- When the unit is connected to the internet, the unit automatically sends unit data to Renson.
- For more information about this data processing, see www.renson.eu/privacy or contact us at privacy@renson.be.
- If a customer's Renson Flux+ Flat is connected to your account via the user app, you have access to the personal data of that customer and you are a data processor within the context of GDPR. In this case, you must comply with the responsibilities of a data processor imposed by privacy legislation. We initially recommend that you disconnect your customer's unit from your account (via user app or user web portal) before the customer starts using the home. If you do not do this, you are responsible for complying with the requirements of privacy legislation.



TIP

The air quality sensor data is used to display (history) graphs to the user. You, the installer, are not automatically entitled to inspect the sensor data from a Flux+ Flat you have installed, see General Data Protection Regulation (GDPR).

3 • General description of the Renson Flux+ Flat Unit

3.1 • Professional product

The Renson Flux+ Flat is a balanced ventilation system with integrated heat recovery with counterflow heat exchanger. The unit brings fresh air into the home mechanically and removes polluted air from the home mechanically using 2 integrated fans. To guarantee optimal efficiency, the system must run in balance as much as possible (supply = extraction). The Renson Flux+ Flat is a professional product and must only be installed by a qualified installer.

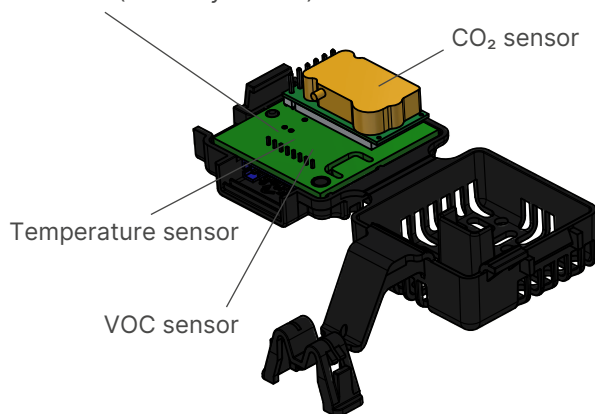
The proper functioning of the Renson Flux+ Flat can only be guaranteed if sufficient and correctly dimensioned passage openings are provided in the interior doors of the home. A door grille or a gap can be placed under the door with a minimum airflow of 25 m³/h at 2 Pa.

3.2 • Operating principle

The Renson Flux+ Flat is equipped with a sensor print that, depending on the sensor position, is equipped with:

- two sensors (ODA: RH + TEMP) which measure the air drawn in from outside.
- four sensors (ETA: RH + TEMP + VOC + CO₂) that measure the air drawn in from the interior.

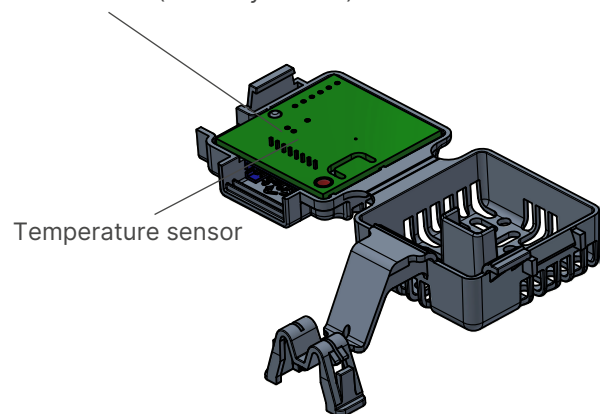
RH sensor (humidity sensor)



VOC sensor

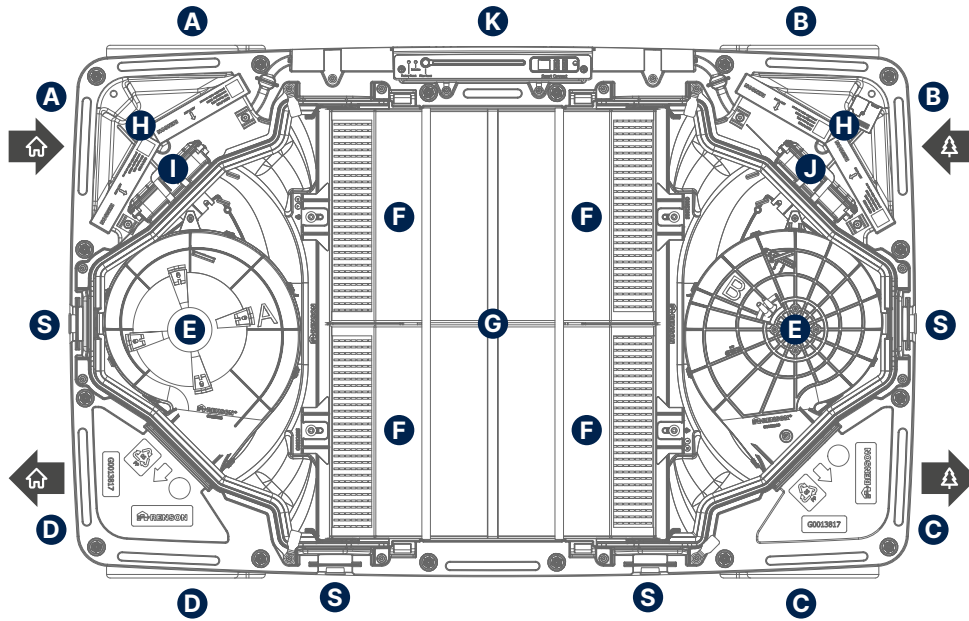
HA (🏠) – ETA

RH sensor (humidity sensor)



Temperature sensor

BA (🌳) – ODA

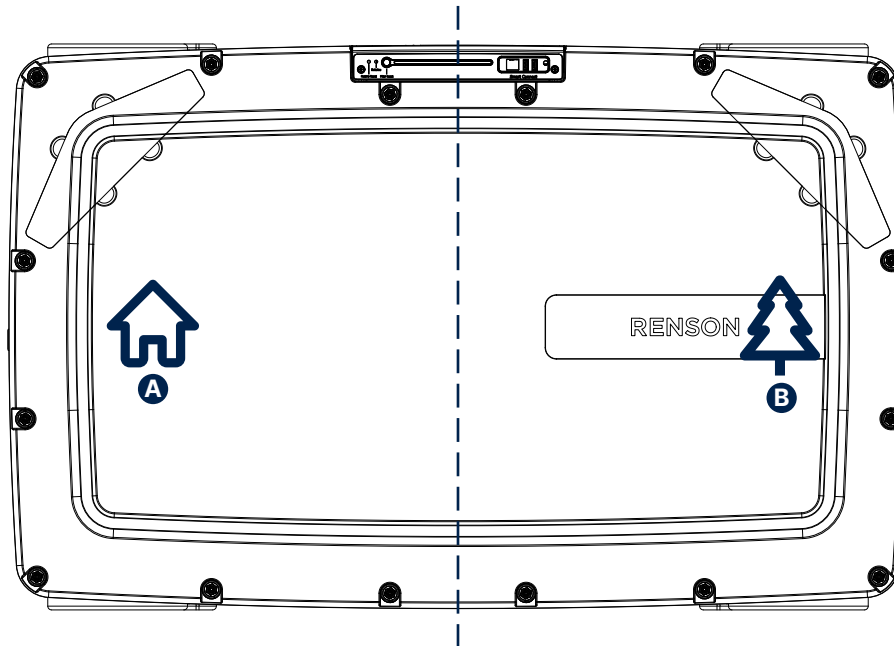


INSTALLER

Pos.	Name	Job title
A	ETA	Extraction of polluted air from the interior.
B	ODA	Fresh air flow from outside
C	EHA	Contaminated extraction air blown outside
D	SUP	Provide fresh air in the home
E	Fan (2x)	These ensure the supply and extraction of air.
F	By-pass valve (2x)	This switches off the heat exchange during hot summer days.
G	Heat exchanger	This recovers the heat from the polluted air to heat the fresh outside air.
H	Filter	Stopping polluting particles to protect the unit and to guarantee a healthy indoor climate.
I	Sensorprint with 4 sensors (black housing)	<ul style="list-style-type: none"> • RH-sensor • Temperature sensor CO₂ sensor • VOC-sensor
J	Sensorprint with 2 sensors (grey housing)	<ul style="list-style-type: none"> • RH-sensor • Temperature sensor
S	Condensation drainage point	Extraction of condensation water.
K	Main circuit board	Controlling the unit and communicating with external elements that connect the unit to the Internet.

3.3 • Symmetrical system

The Renson Flux+ Flat Unit is completely symmetrical. The two parts are labelled A and B. Part A is the left part if you view the unit with the RENSON logo on the lid upright.



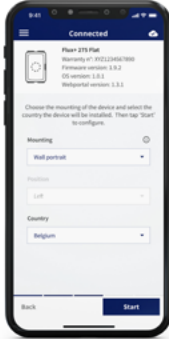
3.4 • Installation properties

- Ceiling
- Wall:
 - Horizontal placement
 - Vertical placement
- HA connection (🏠) or BA connection (🌲) (Left/Right version) to be exchanged via software, provided the CO₂ sensor is physically moved.
- If pulsation/extraction of HA (🏠) or BA (🌲) need to be exchanged, this can be done by physically turning the unit 180 degrees for vertical or ceiling installation.
- Connection of the air ducts: 2 connections per connection point.
- Quickly adjustable thanks to Renson Ventilation Set-up that guides you during installation.
- The weight of the device has been chosen so that it can be installed by 1 person (in accordance with European legislation).

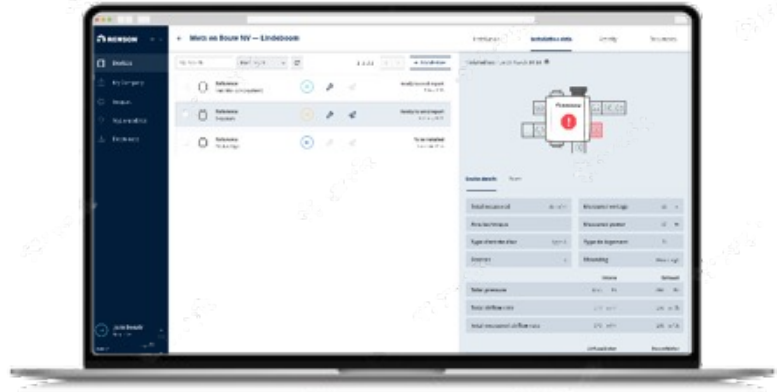
3.5 • Service properties

Start up via app installer:

The app guides the installer through the start up for a rapid, high-quality & reliable installation.



RENSON VENTILATION SET-UP APP
FOR EASY REGULATION DURING
INSTALLATION



MY-LIO PLATFORM FOR INSTALLATION PREPARATION +
POST-INSTALLATION VENTILATION REPORT

<https://www.my-lio.eu/>

INSTALLER

Renson My-Lio-professional web portal – DIGITAL PASSPORT

Pre-configuration & follow-up via My-Lio Professional

The Renson My-Lio-professional web portal guides the installer through the **pre-configuration** and the **follow-up of the project**, from start up to delivery. Some features:

- Project creation & pre-configuration
- Sending measurements report digitally
- Monitoring connected units (TBD)

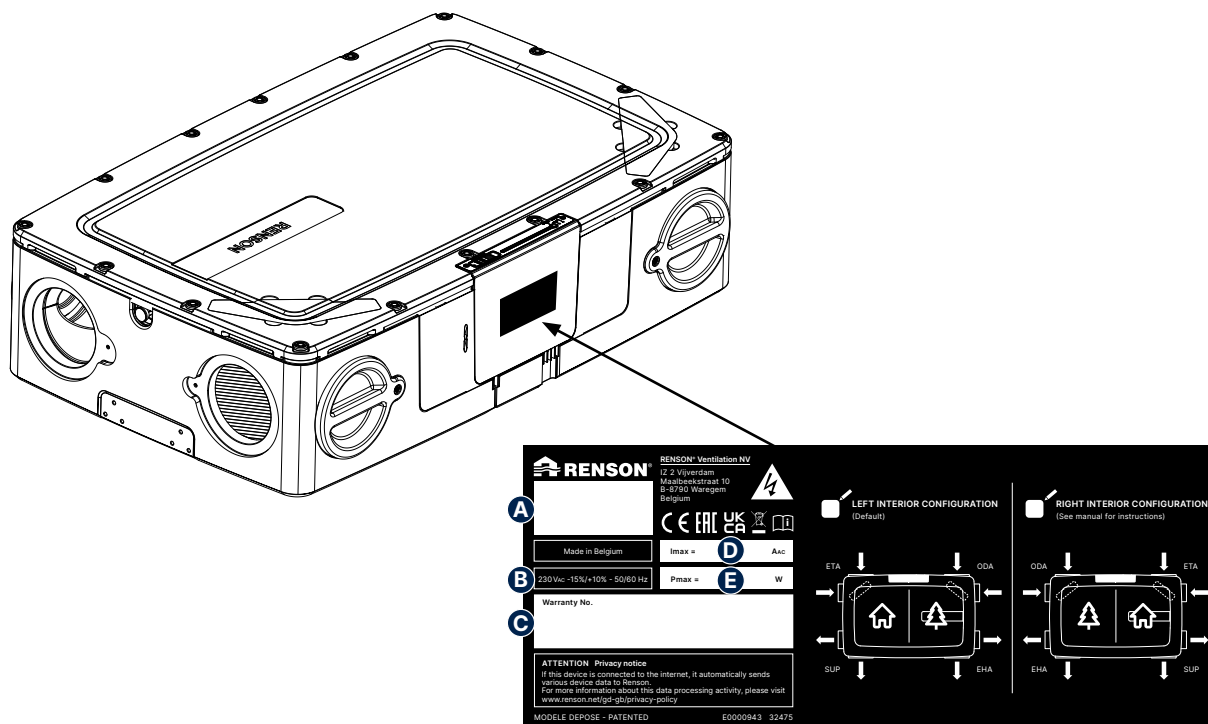
This ensures digitalisation and administrative **simplifying of the paperwork**

3.6 • Maintaining air quality

- The Renson Flux+ Flat Unit has a CO₂ demand signal. The sensor measures the CO₂ content 24/7 and uses intelligent demand management. The big advantage of this is that the sound level within the home is always as low as possible, as is the energy consumption.
- As standard, ventilation continues above the basic level until the CO₂ content has fallen below 800 ppm. For comparison: the CO₂ level of the outside air is between 350 and 450 ppm.
- The ventilation system tries to achieve an acceptable moisture content.
- The ventilation system uses the central VOC sensor to ensure pollutants (such as those emitted by furniture) are also removed.

3.7 • Identification

3.7.1 • Identification label



Pos.	Info	Pos.	Info
A	Type, version number and serial number	D	Max. amperage
B	Grid voltage	E	Maximum power used
C	Warranty number		

! NOTE

- Never remove the identification plate of the unit.
- Make sure the identification plate is always visible.

3.7.2 • Information to be provided when contacting RENSON®

Always provide the warranty number when you contact RENSON®, or when requesting service for your unit.

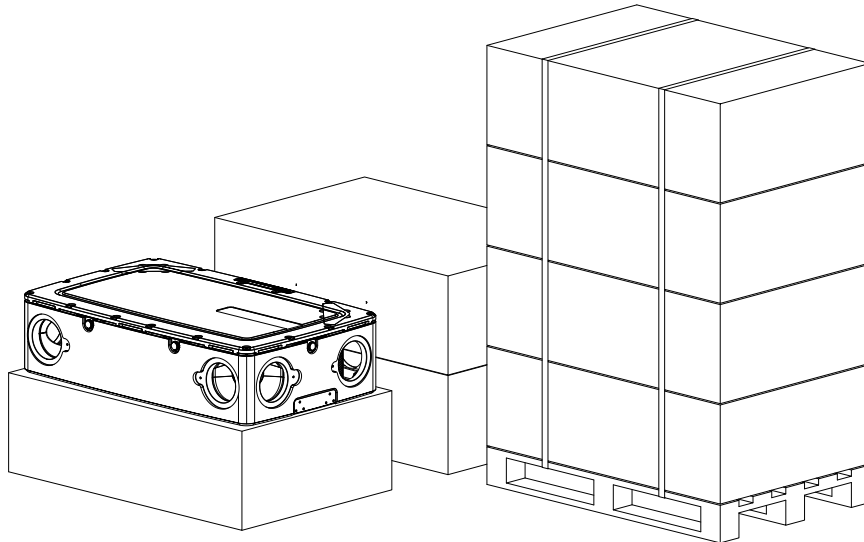
3.8 • Guarantee terms and conditions

- The customer guarantee period is 2 years.
- All pipes must be supported and mounted according to best practise. If any actions other than those mentioned are carried out, RENSON® is not responsible and the guarantee will be void.
- Only an installer who has completed a Renson FLUX training course may install, connect, commission and carry out maintenance on the Flux+ Flat other than described in the user manual.
- Only appropriate RENSON® accessories and controls can be used with the unit.
- Adjustments to the Renson Flux+ Flat Unit are not permitted.

4 • Material, packaging and transport

4.1 • Transport

Please observe the necessary caution when transporting and unpacking the device. No more than 5 units may be stacked on top of each other when stacking the units on a pallet for transport. 1 unit weighs 24 kg. As standard, 4 units per pallet are supplied from Renson. Avoid strong shocks during transport and handling. When transporting with a forklift, the units must remain attached to the pallet. The units are attached to the pallet by means of 2 straps. The packaging has been adjusted so that the unit can be transported without damage under normal circumstances. Preferably transport and store the unit with the pallet.



4.2 • Material, packaging and environment

After unpacking the device, make sure that the packaging material is disposed of in an environmentally-friendly manner. By returning the packaging back into the cycle, raw materials are saved and the waste mountain is reduced. The packaging consists entirely of EB corrugated cardboard and paper. No plastics or plastic foams are used to package and protect the unit.



4.3 • Disposing of the apparatus

Old electrical and electronic units often contain valuable materials. However, they also contain harmful substances that are necessary for the functioning and safety of the unit. Never dispose of the discarded unit with normal waste.



Dispose of the unit in an environmentally-friendly manner by taking it to the appropriate collection point.

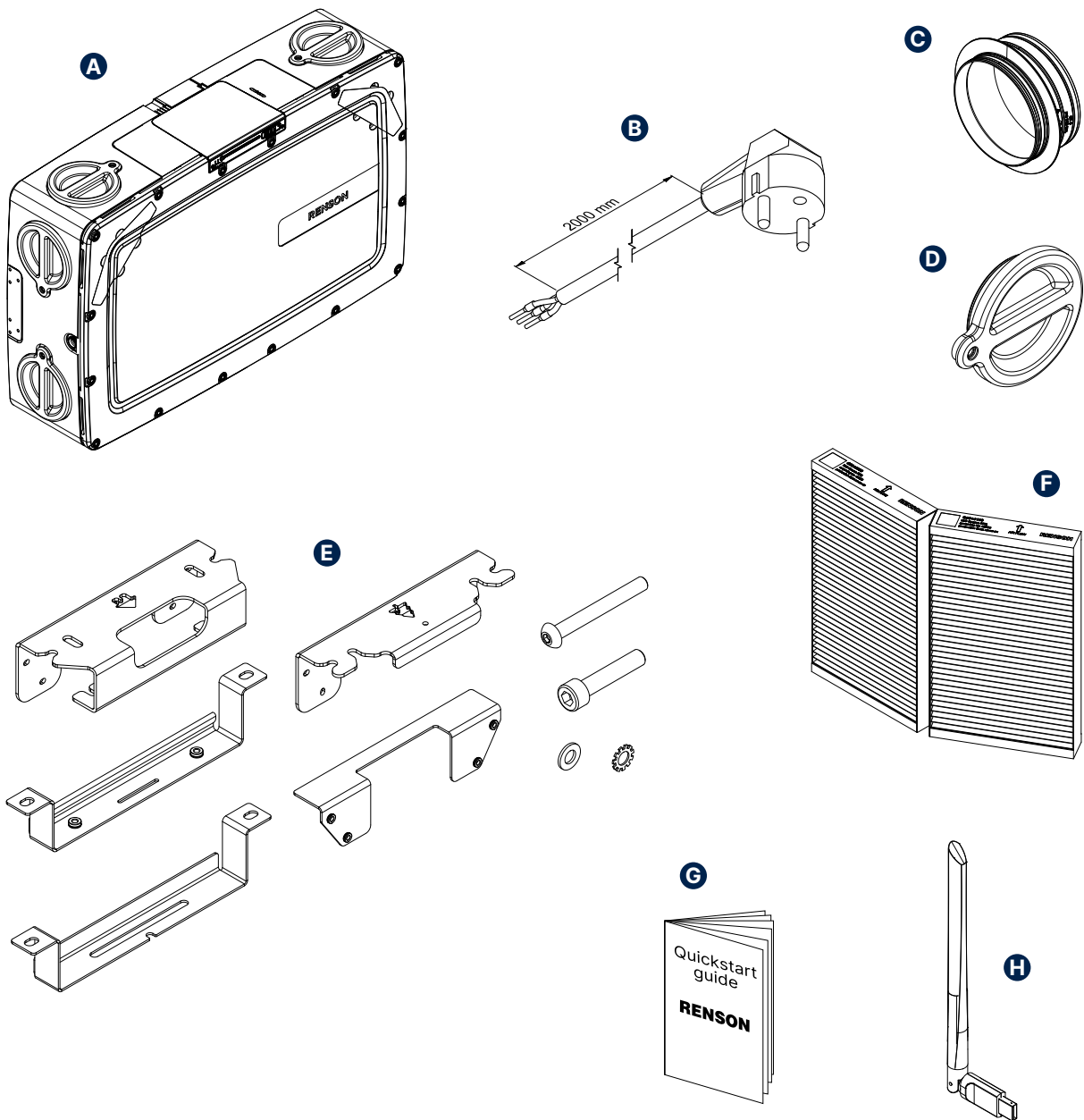
5 • Ventilation unit description

5.1 • Checking the delivery

Contact the supplier immediately if damage is found when opening the packaging or if it appears that the delivery is incomplete.

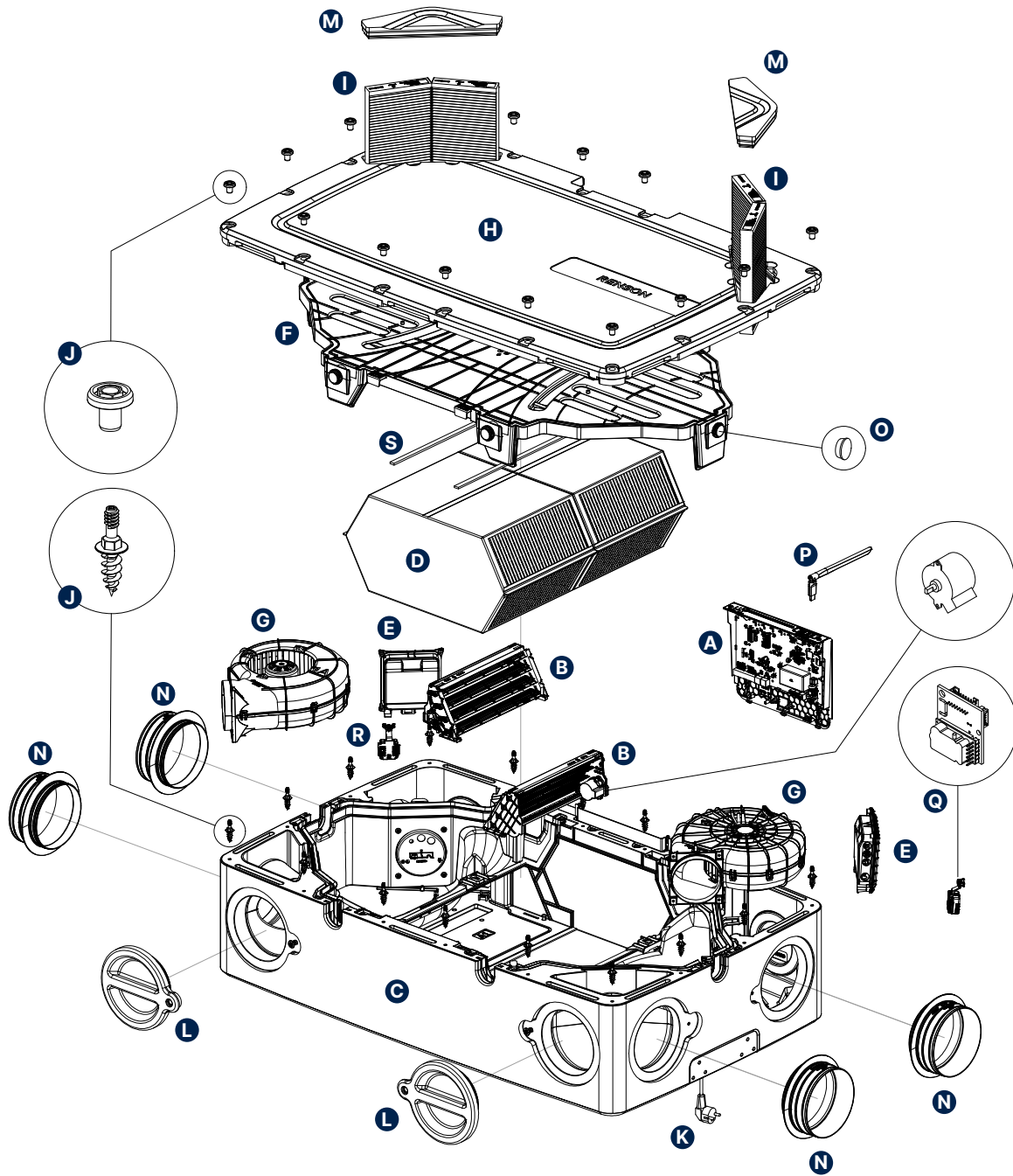
All packaging contains the following parts:

A	1 x Flux+ Flat ventilation unit	E	QuickFix brackets with screws
B	Power cord length 2 m with Euro plug	F	2 x Classic G4 Filter
C	4 x duct connector	G	Quick start guide
D	4 x cap 160 mm	H	Wi-Fi dongle

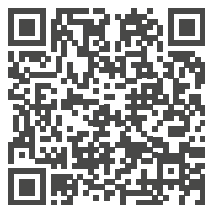


5.2 • Components of the Flux Flat unit

Exploded view of the Flux+ Flat Unit:



A list of available parts can be found at:
https://dam.renson.net/m/7435923d99529669/original/Flux_Flat_Spare_parts.pdf



5.3 • Technical specifications

5.3.1 • Technical specifications

	Flux+ 225 Flat	Flux+ 275 Flat	Flux+ 370 Flat
Type of ventilation	Mechanical demand-driven balanced ventilation with heat recovery		
(Max.) ventilation air flow	225 m ³ /h (at 200 Pa)	275 m ³ /h (at 200 Pa)	370 m ³ /h (at 200 Pa)
Thermal efficiency	Belgium - conform to Annex G of Annex V of the Energy Decree (conform to EN13141-7)		
	91% at 75 m ³ /h 89% at 124 m ³ /h 87% at 175 m ³ /h 85% at 225 m ³ /h	91% at 75 m ³ /h 87% at 175 m ³ /h 85% at 225 m ³ /h 83% at 275 m ³ /h	83% at 290 m ³ /h 82% at 322 m ³ /h 81% at 352 m ³ /h 80% at 370 m ³ /h
	Netherlands - conform to Section 11 of NTA 8800 in the context of the Building Regulations (conform to EN13141-7)		
	91% at 157 m ³ /h	89% at 191 m ³ /h	88% at 259 m ³ /h
Sound level <i>Conforms to the EcoDesign directive</i>	43,5 dB(A)	46,0 dB(A)	50,5 dB(A)
Sound level Lw(A)	At 225 m ³ /h - 100 Pa – Box: 50,5 dB(A) – Supply: 59,5 dB(A) – Extraction: 47,0 dB(A)	At 275 m ³ /h - 100 Pa – Box: 53,0 dB(A) – Supply: 62,5 dB(A) – Extraction: 49,5 dB(A)	To be determined
Maximum power used fan unit	2 × 42 W	2 × 53 W	2 × 83 W
Connection voltage	230 VAC -15%/+10% (50 Hz, 60 Hz) <i>Power cord included (1.5 m length)</i>		
Dimensions	1188 × 745 × 300 mm (LxWxH)		
Weight	25 kg		
Ø connection per supply duct	Ø 160 (external diameter)		
Ø connection per extraction duct	Ø 160 (external diameter)		
Bypass	Modulated		
Fan	Extremely quiet & energy-efficient EC motor with Ø180 fan blade. Constant flow control: air flow rate is kept constant.		
Maximum fan operating pressure	300 Pa Recommended working pressure at design air flow: ≤ 200 Pa Guidance value for very good working pressure at design air flow rate (see TV n° 258): ≤ 100 Pa		
Connections – SMARTCONNECT	<ul style="list-style-type: none"> – 1x Ethernet connection – 2x USB connections (USB dongle for Wi-Fi connection included) – Inputs: 3x DIGITAL, 1x ANALOGUE (0-10 V) 		
Breeze function	Temporary nominal ventilation (= deactivation of demand-driven control) at times when a certain level of cooling is required (⇒ optimal reduction factors)		

The complete technical datasheet can be found at this link:

https://dam.renson.net/m/35021653ccaac790/original/EN_Techn_data_sheet_Flux+_Flat.pdf



5.3.2 • Control

Resident's app:

- Read the air quality in the home
- Personalisation and (temporary) manual adjustment of the ventilation air flow rate possible

Optional:

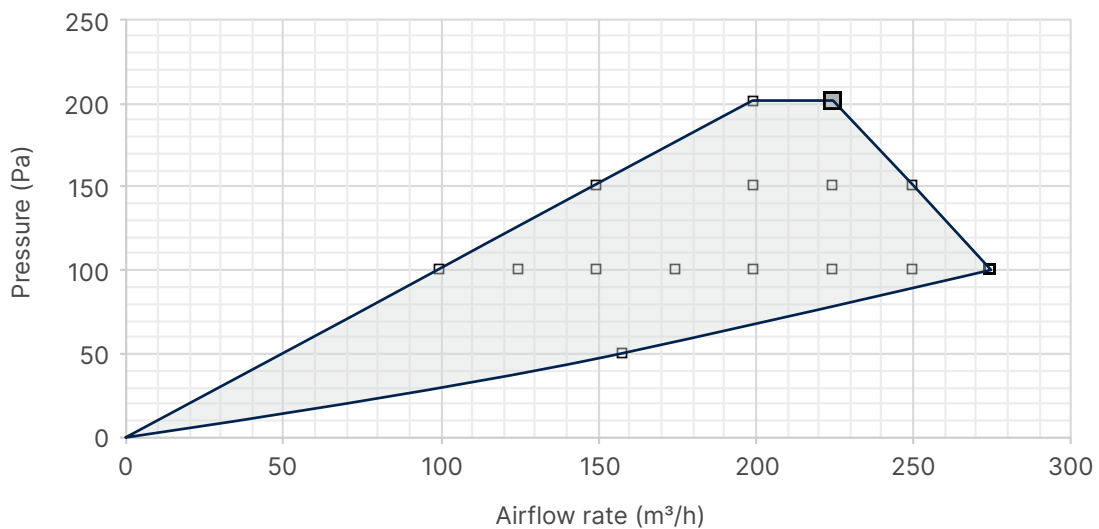
- Potential-free wired 3-position switch for manual adjustment of the ventilation extraction air flow rate (see Chapter 8.11)
- 4-position switch, included in the room sensors

5.3.3 • Room sensors

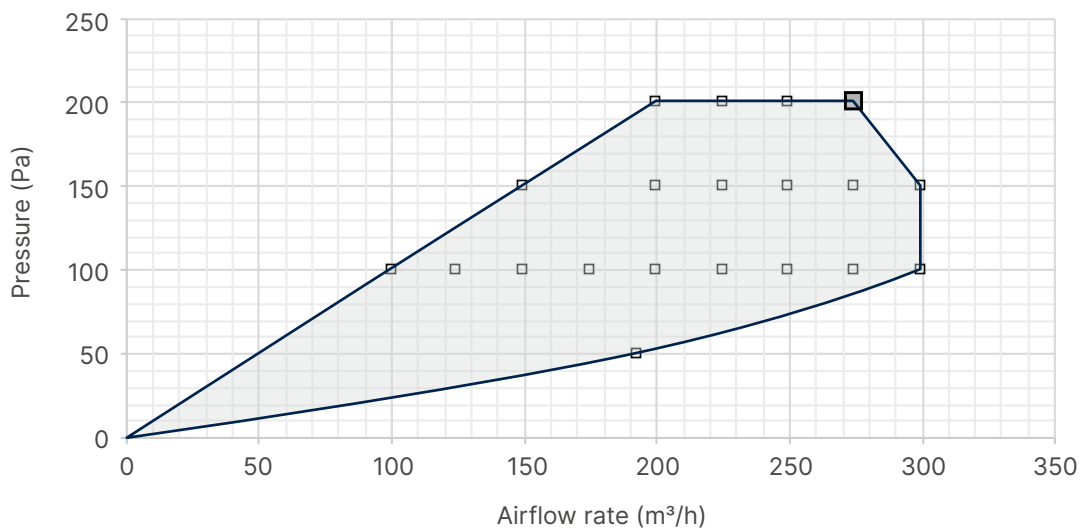
The Renson Sense room sensors can be combined with the Flux+ Flat to regulate the local air quality via ventilation air flow rate. These 230 V powered sensors wirelessly communicate robustly with the ventilation unit. This provides a further increase in air quality and a reduction in the E level.

5.3.4 • Pressure-Air flow rate curves

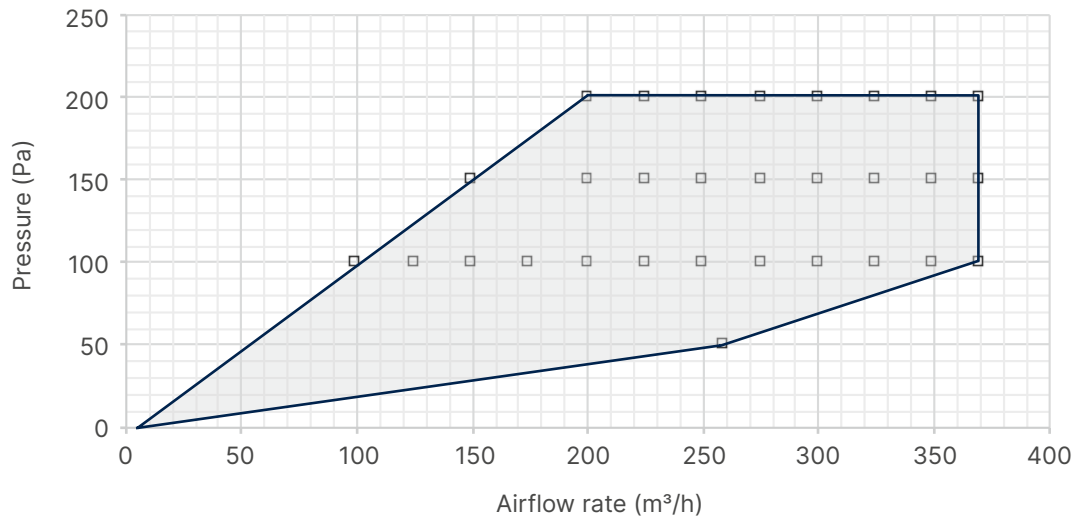
Flux+ 225 Flat



Flux+ 275 Flat



Flux+ 370 Flat

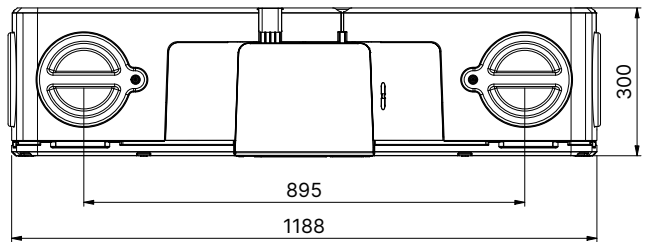
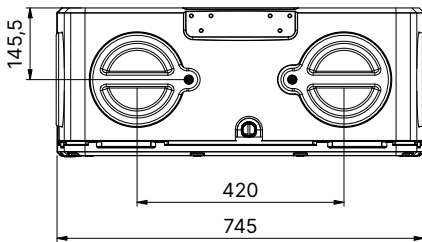
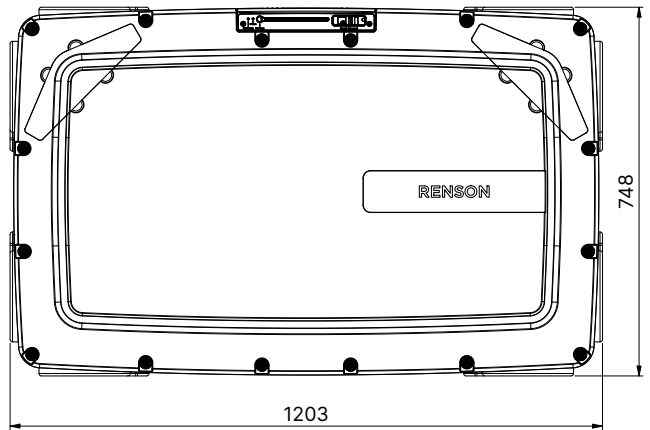
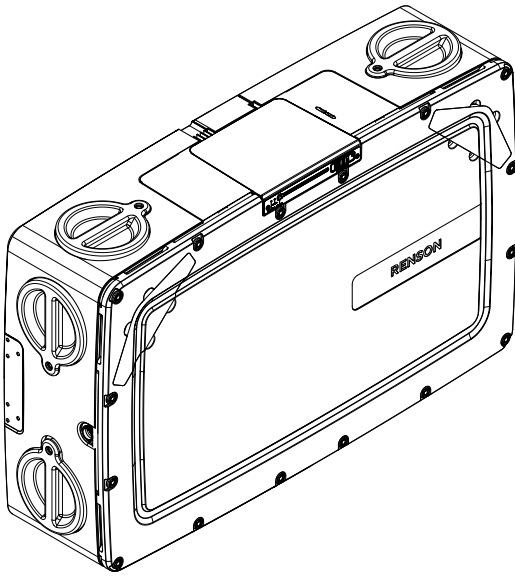


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5.3.5 • Frost protection

The Flux+ Flat is equipped as standard with a frost protection mechanism to prevent ice formation in the heat exchanger. Ice formation reduces the efficiency of your ventilation system and can damage the heat exchanger. Each Flux+ Flat unit is equipped with basic frost protection through an unbalance operation.

5.4 • Dimensions and weight



5.5 • General installation conditions

Read the safety and installation conditions carefully.

- Choose the installation space in the technical room or elsewhere (near the roof or wall penetrations). Position the unit centrally in relation to the rooms to be ventilated so the duct lengths are distributed as homogeneously as possible and resistance across the duct network is limited. To limit possible noise transmission, do not place the unit above or in a bedroom.
- Make sure there is sufficient space around the unit to connect the ventilation ducts without problems and to carry out inspection and maintenance. Avoid obstacles that prevent access or removal of the unit.
- The unit must be placed in a frost-free room.
- The condensation drainage point must be connected to the home drainage point network.
- The Flux+ Flat may not be connected to an extractor hood or dryer.
- The supply and extraction of the unit must always take place outside
- The dimensions of the required supply ducts are highly dependent on the intended extraction air flow rate and the total lengths. Follow good practise and the guidelines included with the materials used
- Avoid sharp bends in the pipes just before the fan unit.
- Insulated pipes should be used to prevent condensation in the ducts:
 - for the connections of the supply and extraction pipes from outside to the ventilation unit
 - if pipes are placed outside the insulated volume of the home
- Minimum density for wall/ceiling of 100 kg/m², because of firmness for fastening & sufficient mass for further vibration damping.

! NOTE

The placement of the Flux+ Flat and the associated air ducts must be arranged in such a way that the air ducts can be connected with as few bends as possible. The resistance across the air ducts is thus limited and capacity and noise problems are avoided.

💡 TIP

Renson recommends always providing 1 m of acoustic damping material Acoudec in the impulse & extraction side. Together with respecting the correct ducting rules to obtain an acceptable pressure drop, this ensures quiet operation of the ventilation system. Always place the silencer as close as possible to the fan unit.

In addition to choosing high-quality components, correct installation is also essential for a well-functioning ventilation system. Correctly dimensioning the piping system plays an important role in this. Correct sizing of the pipe system significantly reduces fan consumption and improves acoustic comfort. The mechanical supply lines in ventilation systems D to the living areas in particular deserve extra attention. After all, mechanical supply is sensitive to acoustic discomfort. The table below provides an overview of the maximum recommended air flow rates through the Renson pipe components. Please note that this table does not address pressure drops. To limit the pressure drop across the channels, the length and especially the number of bends per channel must also be limited. If in doubt, contact your contact person.

https://www.renson.eu/Renson/media/Renson-documents/BENG/renson_leidingsysteem/Tabel1_Dimensioneringstabel_Renson_leidingsysteem_NL.pdf



6 • Installation

6.1 • Choice of installation orientation

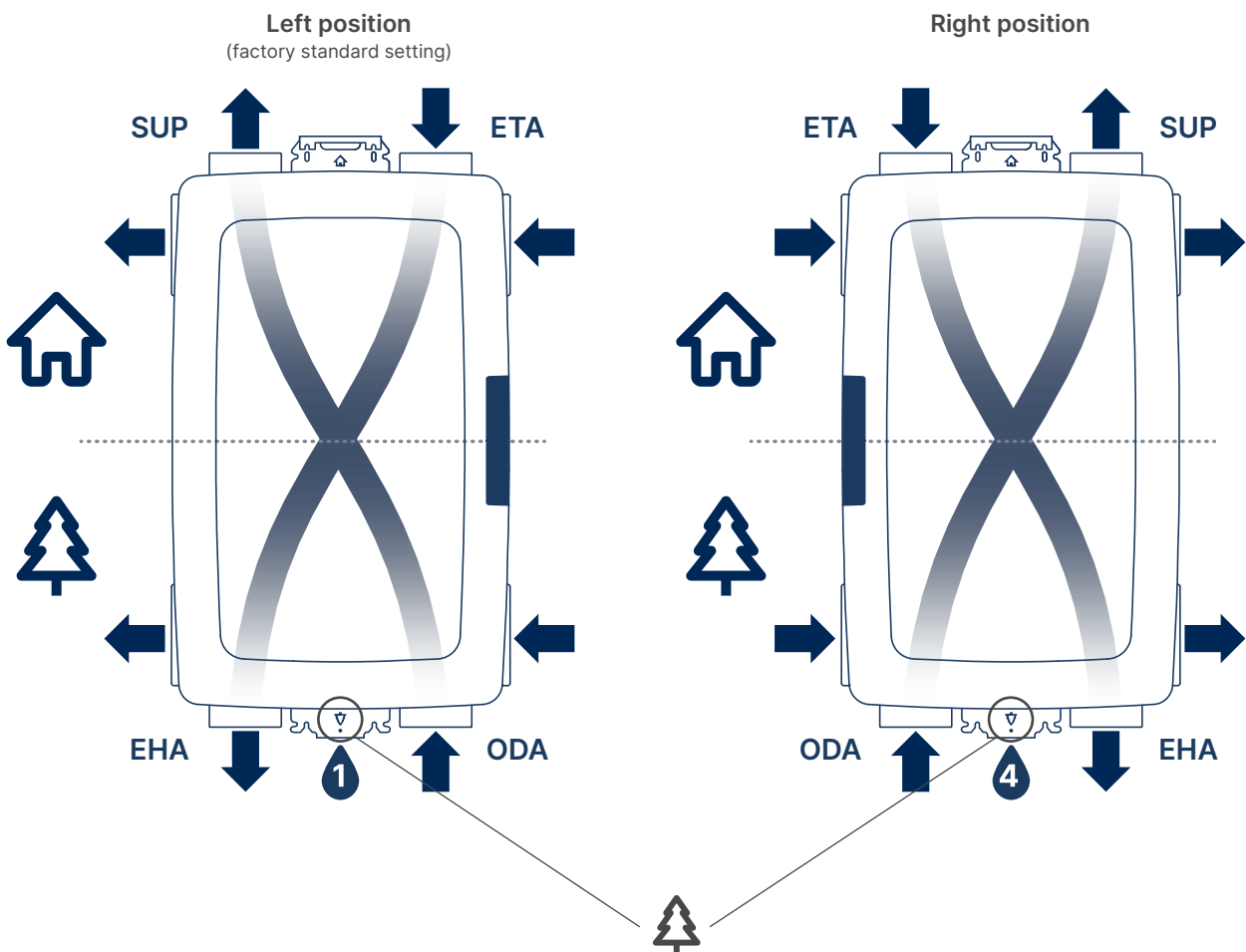
! NOTE

The orientation and location where the Flux+ Flat is installed determines which brackets should hang on which side of the unit and where the condensation drainage point and duct connections will be located.

The Flux+ Flat is a flexible unit and can be installed in both ceiling and wall configurations. Moreover, each installation option is possible in both left (default) and right version:

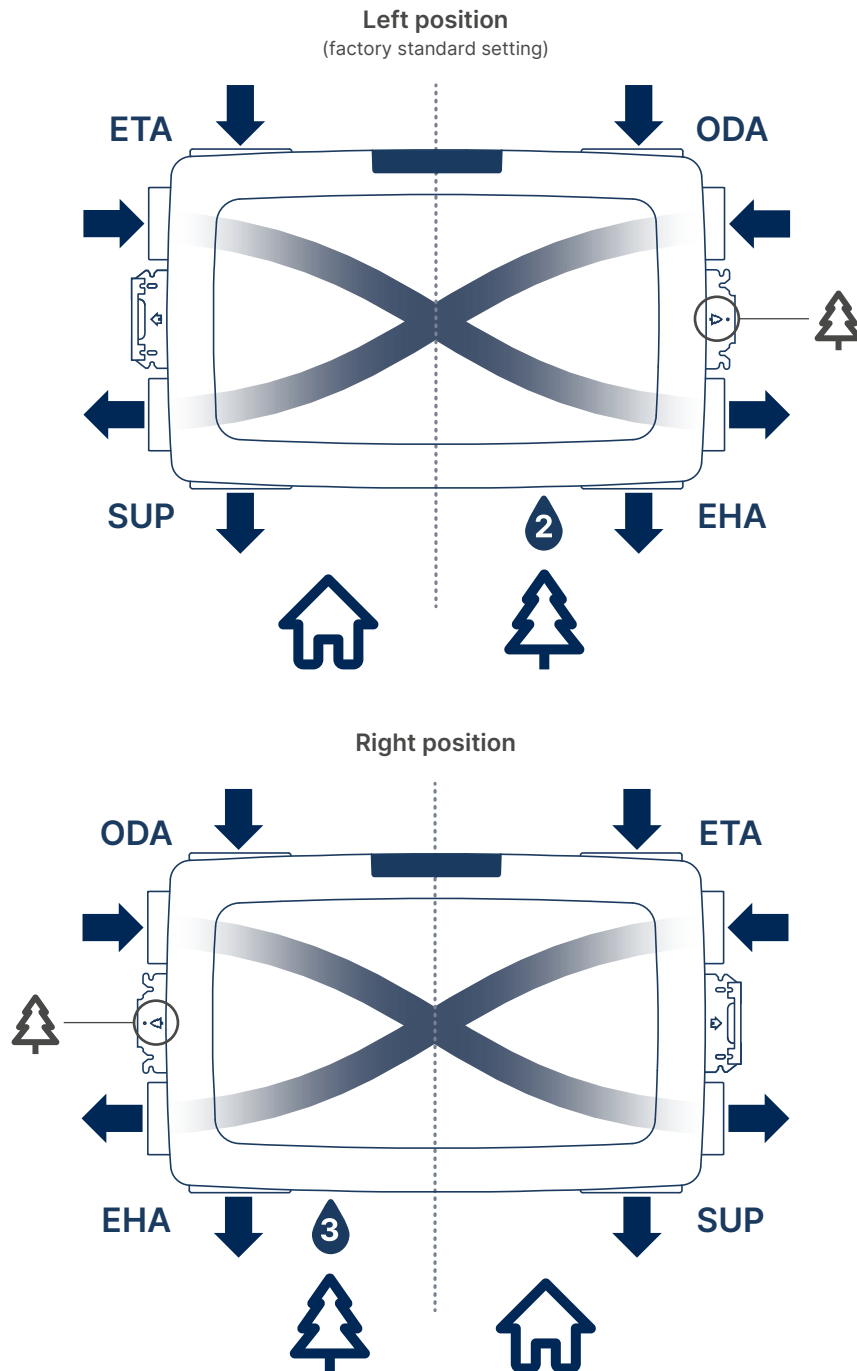
6.1.1 • Vertical wall installation

Bracket BA (▲) is placed at the bottom so that installation against the wall can proceed as smoothly as possible. Condensation drainage point is provided on the side where EHA is connected. Choose condensation drainage point number 1 for the left version, condensation drainage point number 4 for the right version, which in this installation will essentially always be the condensation drainage point at the bottom of the unit.



6.1.2 • Horizontal wall installation

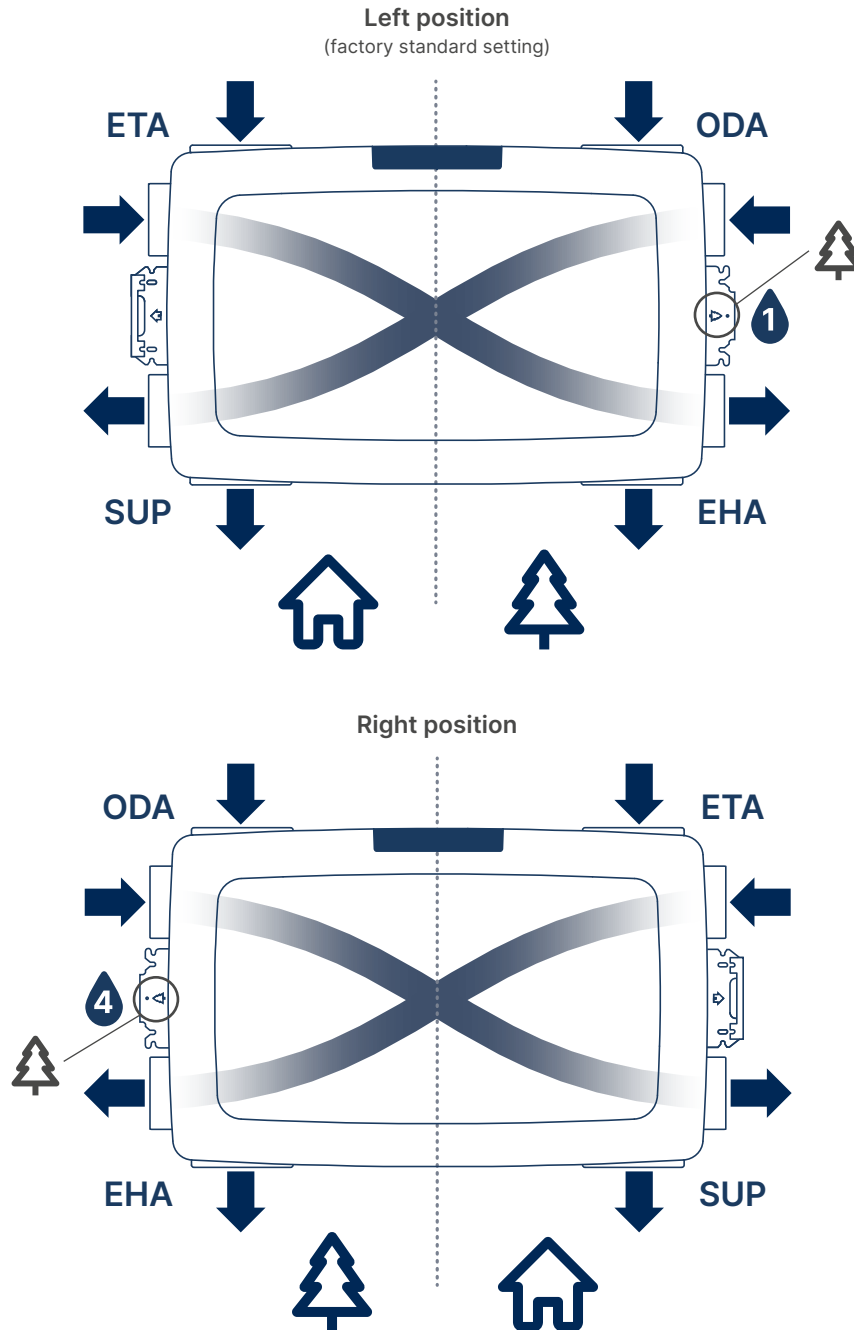
Condensation drainage point is provided on the side where EHA is connected. Choose condensation drainage point number 2 for the left version; choose condensation drainage point number 3 for the right version. The control housing will always be located at the top (see image).



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6.1.3 • Ceiling installation

Condensation drainage point is provided on the side where EHA is connected. It is important to determine where the condensation drainage point will be located. Bracket BA (🌲) ALWAYS ends up on the side where the condensation drainage point is to be provided. Choose condensation drainage point number 1 for the left version; choose condensation drainage point number 4 for the right version.



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6.2 • Conversion from left-hand version to right-hand version

This chapter describes how a unit can be converted from a left to a right version to offer more installation options. The left version shows the house connection HA (🏠) (ETA & SUP) (black sensor) on the left when the circuit board is at the top. In the right-hand version the house connection HA (🏠) is located on the right.

Conversion is always done before installing the unit, but is not always necessary, see Chapter 6.1 for the correct choice of version.

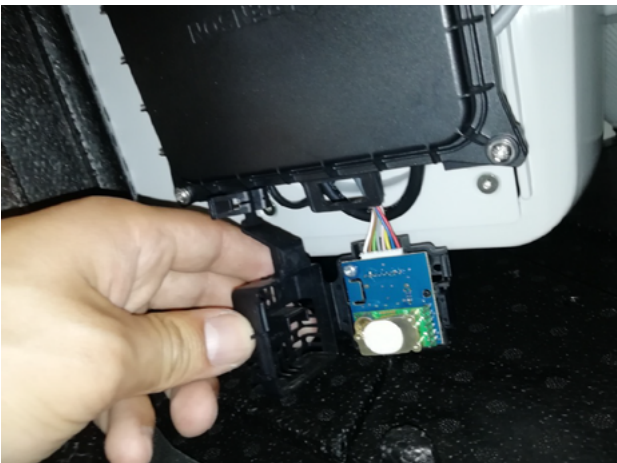
Step 1: remove filter

Remove both filters so the sensors are accessible via the duct connection points.



Step 2:

Click open the sensor housing and disconnect the sensor. Repeat this for the sensor on the other side. Be careful when disconnecting the connector and disconnecting the plastic housing with the sensor board. The black sensor is the sensor for the HA (🏠), the grey sensor is the sensor for the BA (♻️).



Step 3:

Swap the sensors and click them back into place.


Step 4:

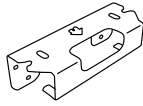
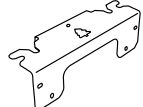
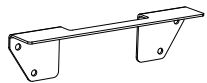



Don't forget to replace the filters and filter covers.

6.3 • Prepare the unit for installation

6.3.1 • Parts

What do you need?

 The necessary parts for this installation are included in the standard packaging of the unit.

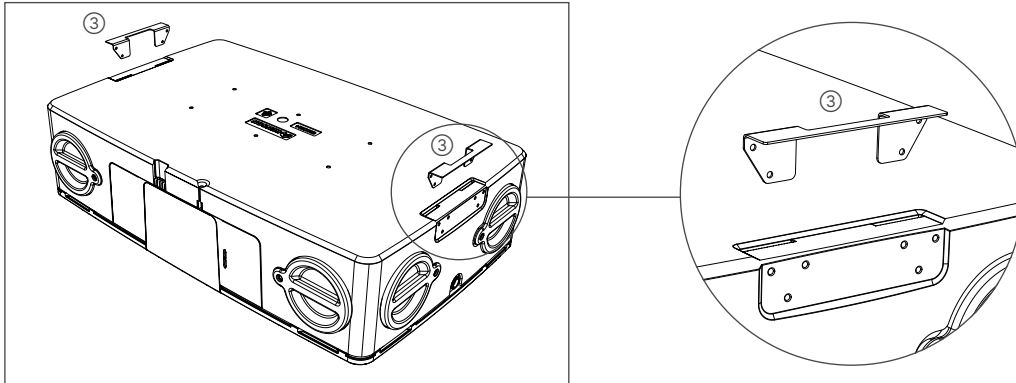
Number	Description	Quantity	Illustration
①	Suspension bracket for house connection	1	
②	Suspension bracket for outdoor connection	1	
③	Bracket support	2	
④	DIN 7380 – M5 × 45 – galvanised	8	
⑤	DIN 125 A – M5 – galvanised	8	
⑥	DIN 6798 A – M5 – galvanised	8	



6.3.2 • Tools

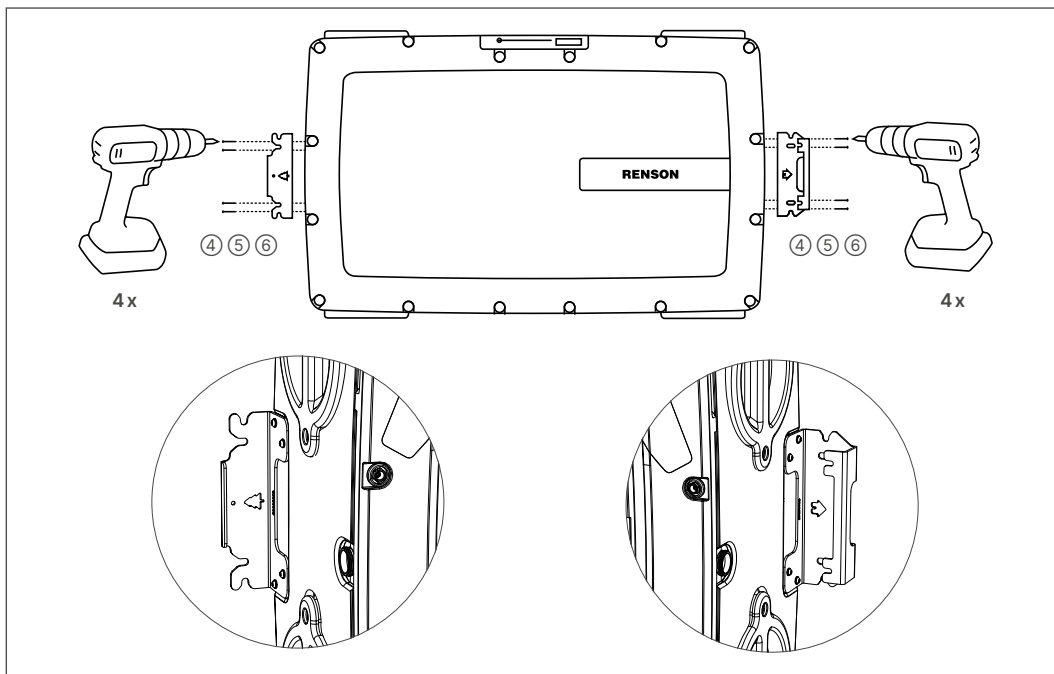
- Drill
- Screwdriver machine with bits
- Pencil, marker for markings

6.4 • Installing the suspension brackets on the unit

1. Place a blanket or plastic sheet under the unit to prevent damage.
Place the unit on the floor with the lid downwards.
2. There are 2 recesses on the underside of the unit. Bracket support **③** must be placed in this recess.



3. Install the 2 suspension brackets on both ends according to the hole pattern against the side.
The suspension brackets are marked with a tree and a house, which refer to the outdoor connection BA  and the house connection HA  respectively.
 - Place the QuickFix bracket against the side of the unit according to the hole pattern so that you can place the M5 bolts **④** with spring washer **⑥** and flat washer **⑤** through the suspension brackets into the recesses.
 - Then screw on the M5 bolts and attach the other QuickFix bracket to the other end face in the same manner.



 **TIP**

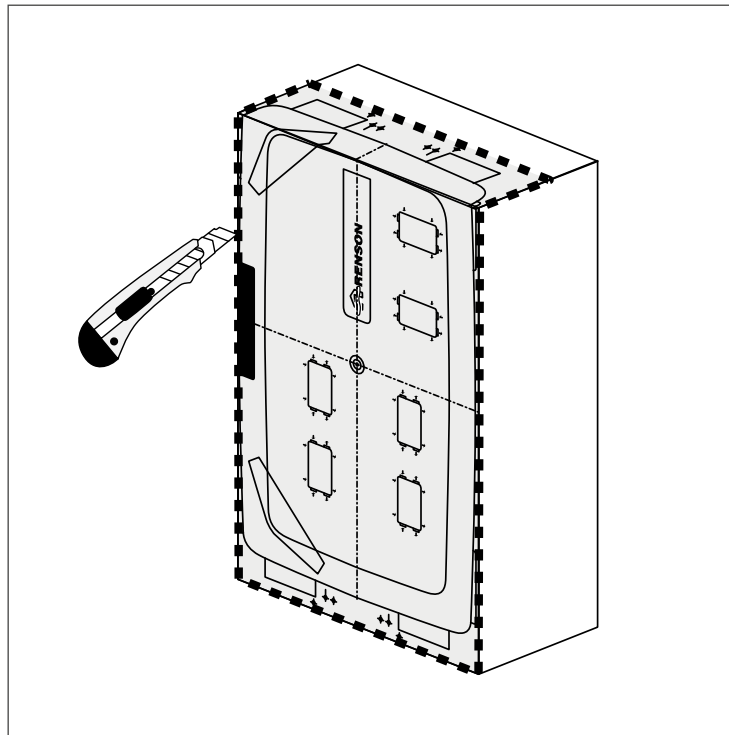
- The bracket support contains press-in nuts. When tightening the M5 bolts, they tighten in the press-in nuts and thus secure the suspension bracket to the side of the housing of the unit.
- Use a screwdriver for this.

6.5 • Marking the suspension brackets

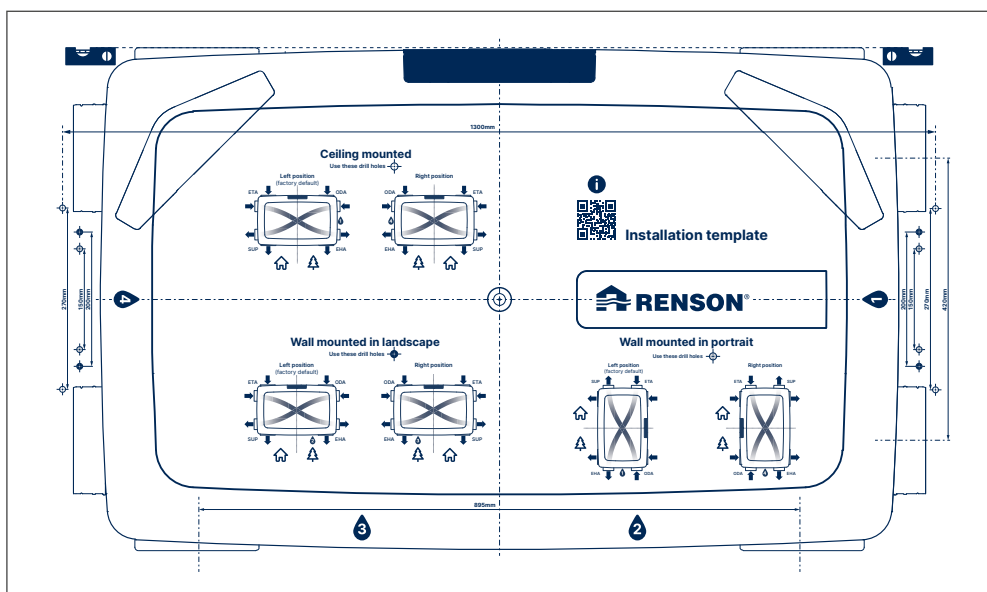
When marking the Flux+ Flat, a minimum distance of 350 mm between the wall and the unit must be taken into account to provide sufficient space for connecting the ducts.

After a choice has been made about the location of the ventilation unit, the location of the suspension brackets can be determined with:

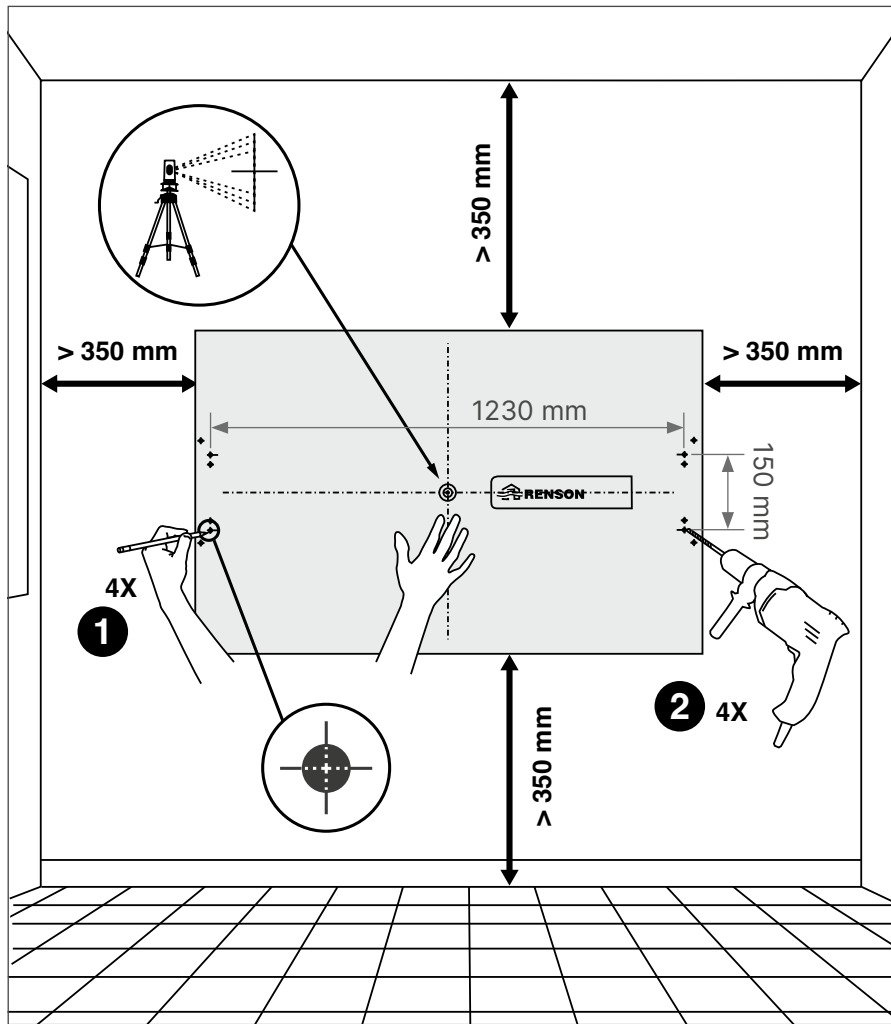
1. The template (which is cut from the box)



2. The optional reusable robust/moisture-resistant template (available from the distributor).



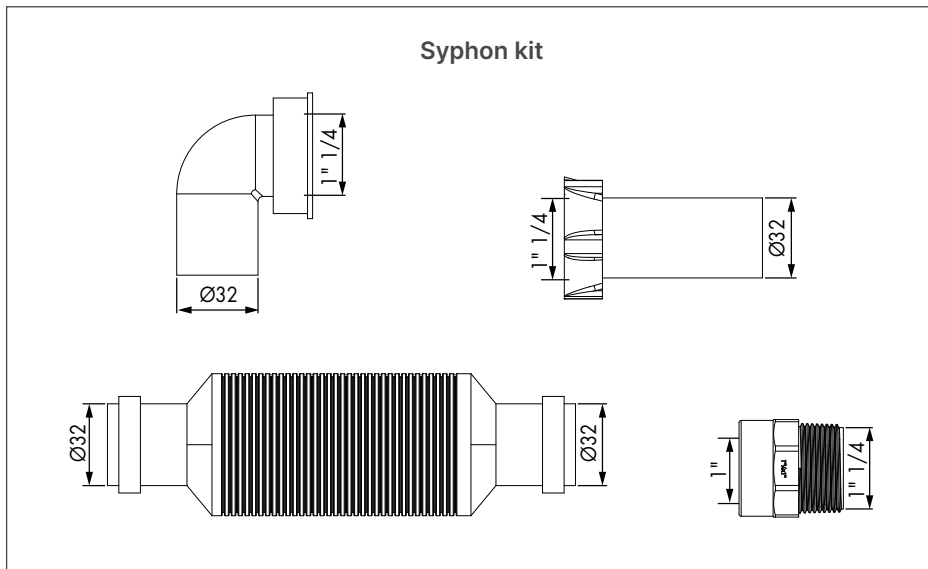
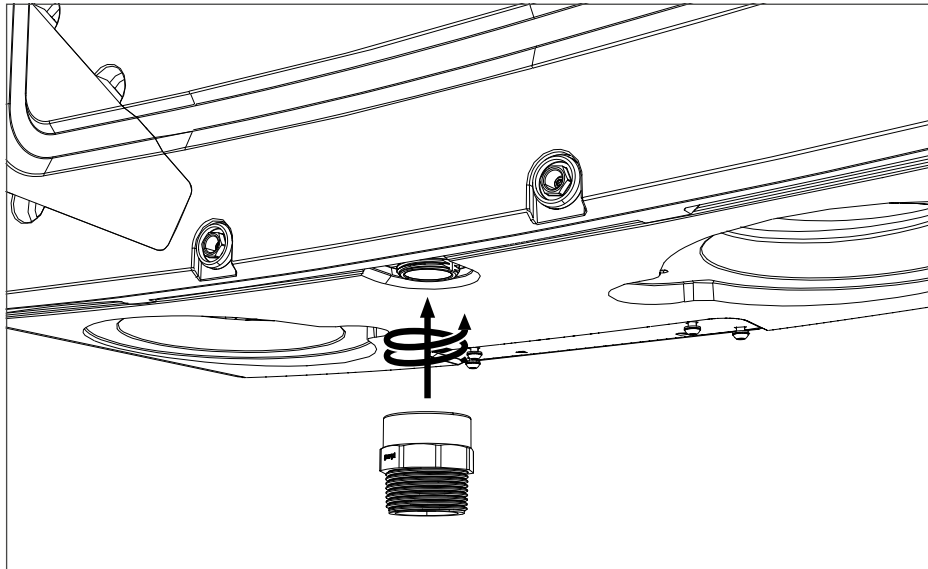
3. By measuring directly on the bracket with the dimensions indicated here. Renson recommends using method 1 or 2, unless one is used to working without these tools. In this case you can use the bracket & drawing with dimensions in this manual.



6.6 • Condensation drainage point

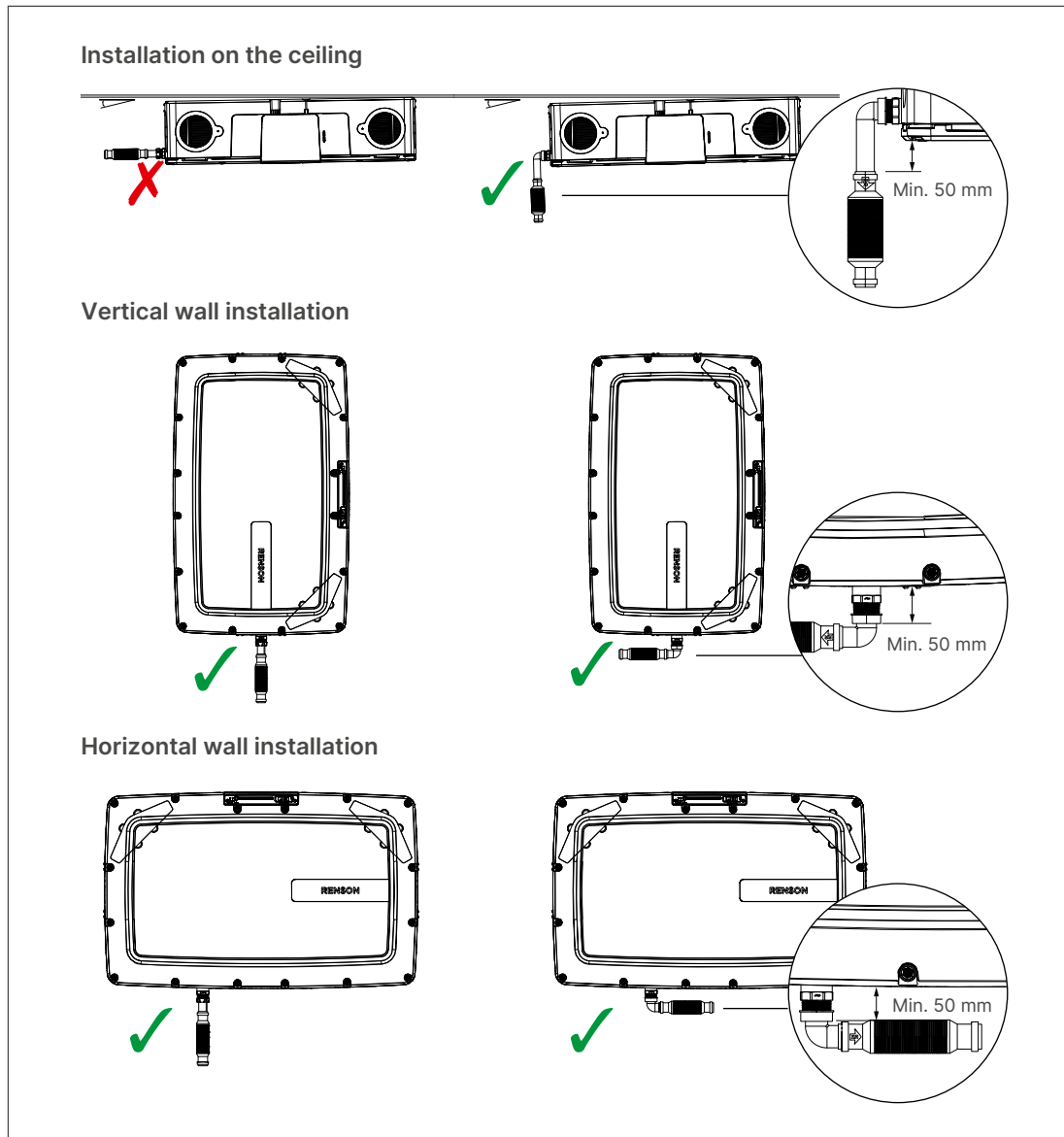
The Renson Flux+ Flat has 4 numbered condensation drainage points. The exact point used to drain the water depends on the installation orientation and was described in Chapter 6.1. The unused drainage points are closed off using the pre-assembled plastic caps. Be careful not to damage the plastic caps when removing them in order to prevent creating a leak when replacing them.

Each condensation point consists of a 1 inch (25.4 mm) external thread. A drainage point with siphon or odour trap must be installed on this. In the image you see a transition piece that is already supplied with the condensation kit.



To ensure you have a correct water drainage point without odour nuisance, it is strongly recommended to use the Renson siphon kit for Flux+ Flat. Follow the instructions on the supplied sheet carefully to ensure proper functioning of the unit.

To guarantee a good water drainage point, you must ensure that the unit is always placed at least 100 mm from the wall so the condensation drainage point can always be realised correctly. The water drainage point must slope at least 1 cm/m to ensure a good drainage point.

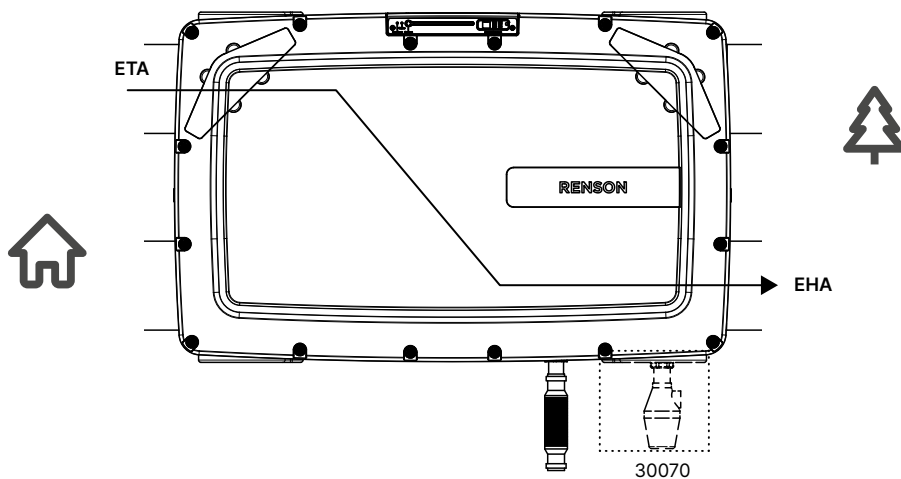
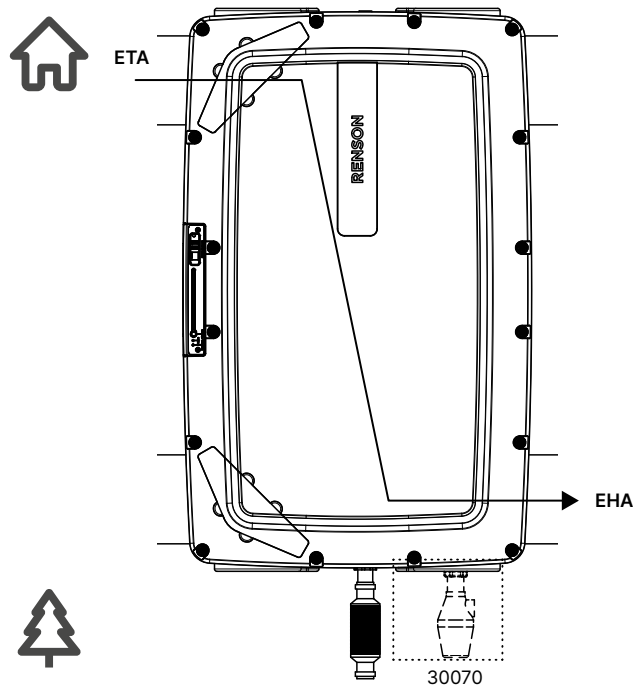


INSTALLER

 TIP

Application of additional dry siphon in horizontal and vertical wall installation

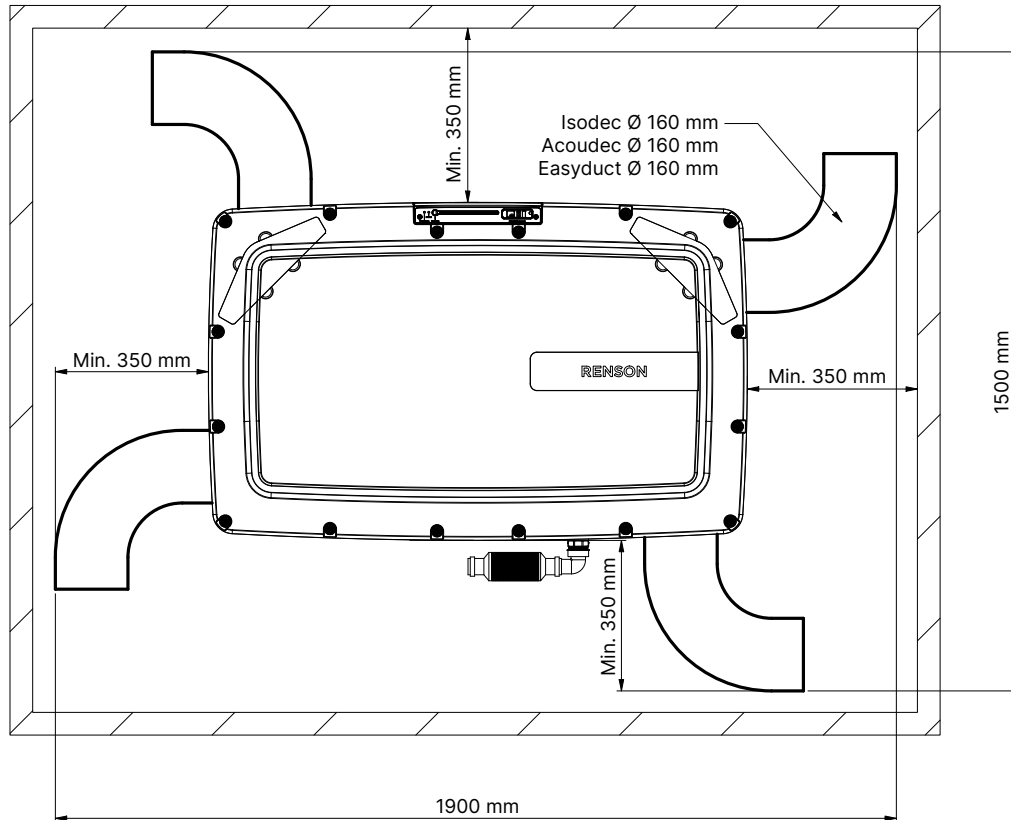
If the unit is placed in a vertical or horizontal installation where EHA is connected to the side opening, it may be necessary in certain cases to install an additional siphon. After all, the indoor air extraction (ETA) is moist, and if condensation accumulates over a long period of time, this must be able to be drain away. This will certainly not always be necessary, because in normal circumstances the little moisture that is produced also evaporates in the discharged EHA air. Order 30070 Kit cap with condensation drainage point to make this extra plug and play facility.



6.7 • Installation dimensions

Both ceiling and wall installation require a **minimum 350 mm** distance between the unit and the wall on each side where a **duct connection** is present. If this duct connection consists of a Renson Isodec, Acoudec or Easyduct in Ø 160 mm, respecting this minimum distance ensures a small pressure drop and easy installation and disassembly for possible service.

In addition, a **minimum 100 mm** must be provided at the height of the **condensation connection**.

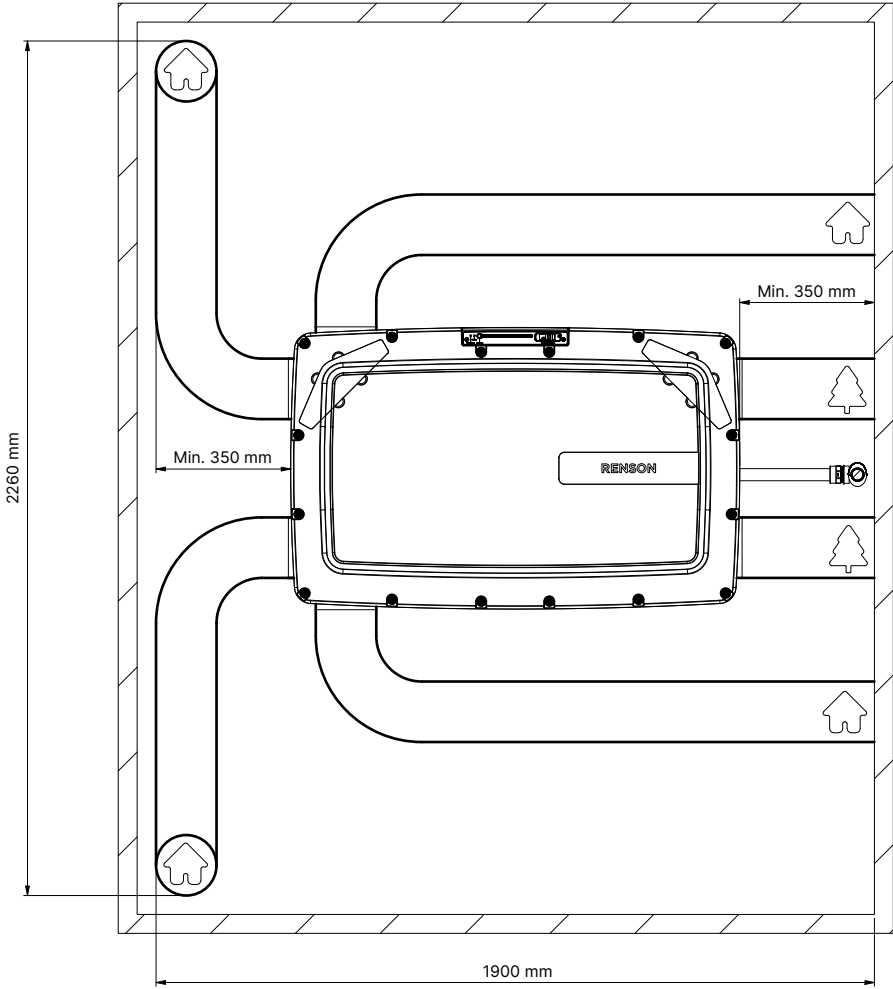
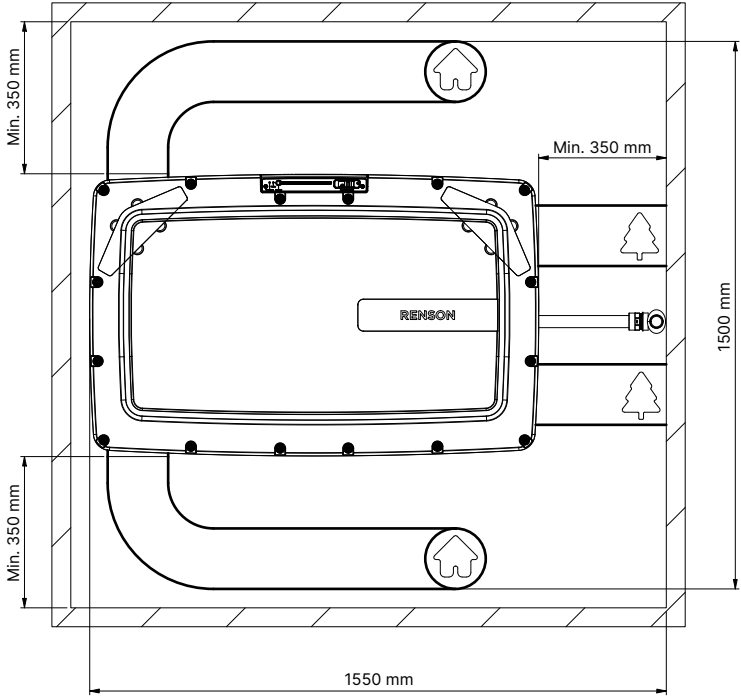


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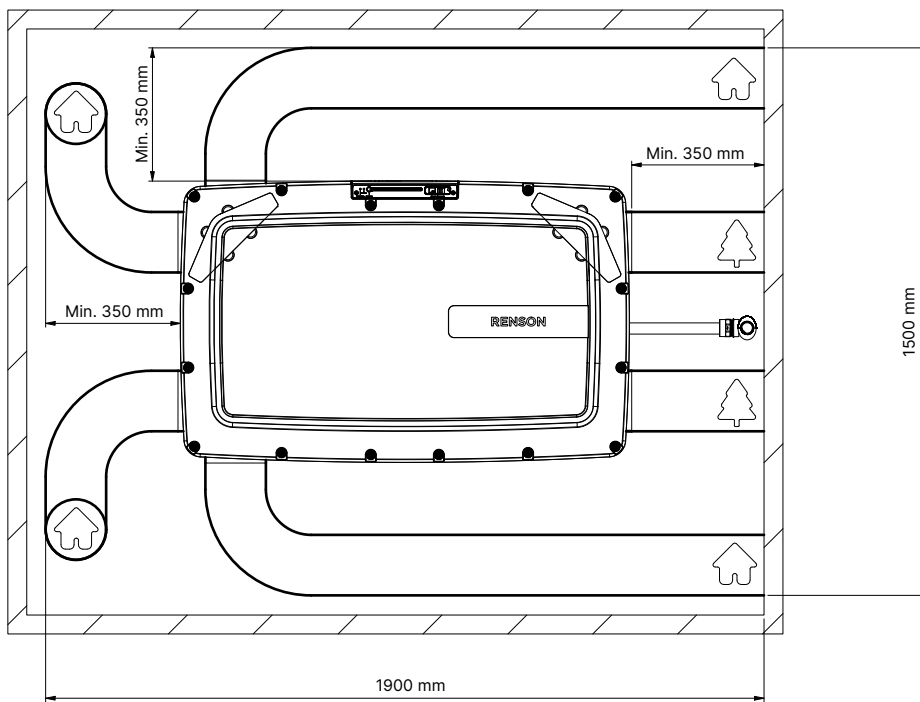
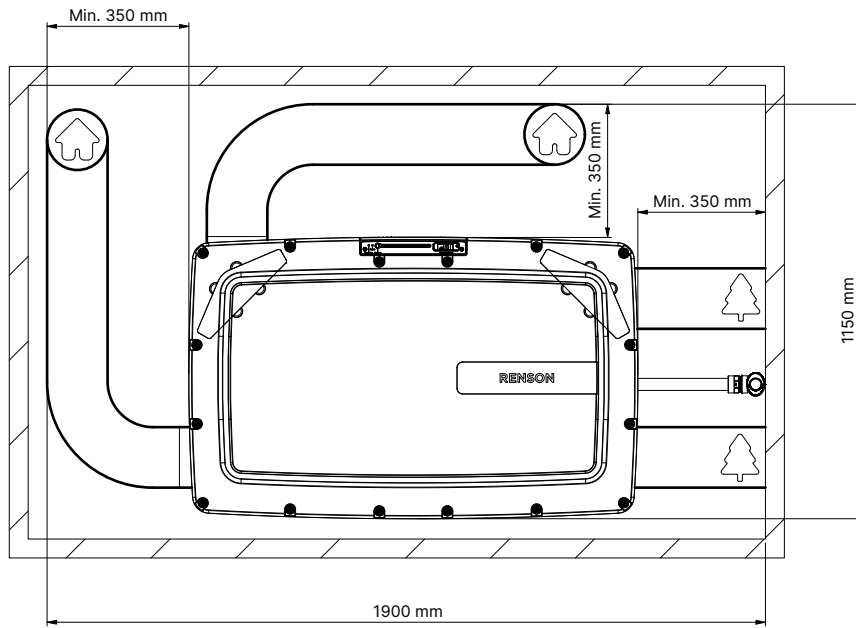
Some examples of set-ups in practice can be seen below, taking into account the above minimum distances and the Renson recommendation to always provide 1 m Acoudec Ø 160 mm on the supply and extraction sides. This will give you a whisper quiet installation.



Example of a ceiling installation:



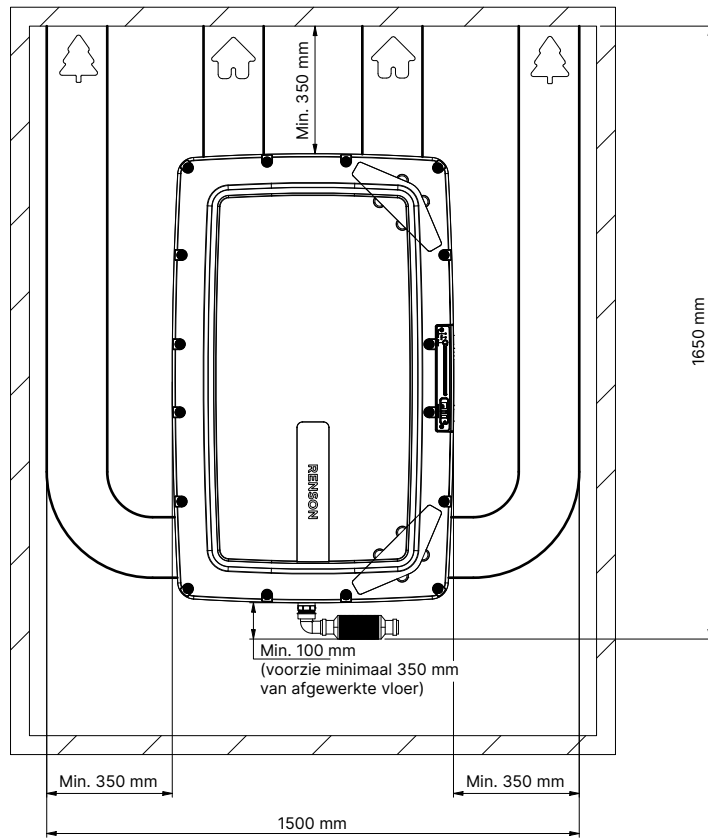
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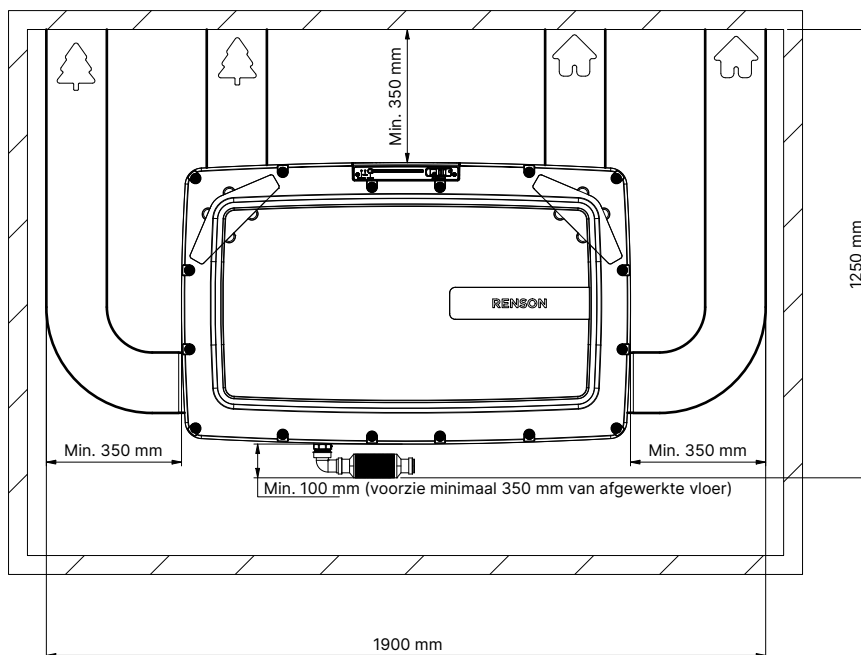
INSTALLER

Example of a wall installation:

- Vertical wall installation



- Horizontal wall installation



6.8 • Connection to air ducts

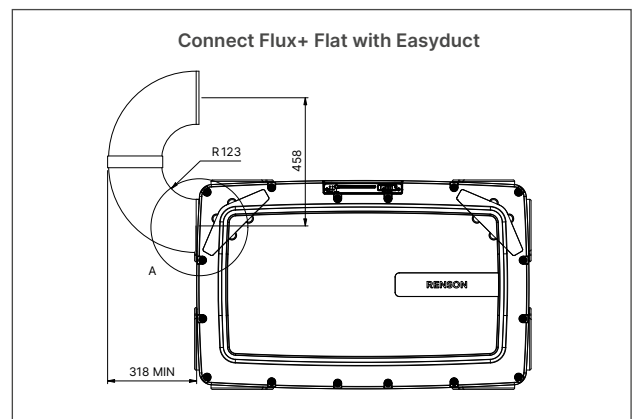
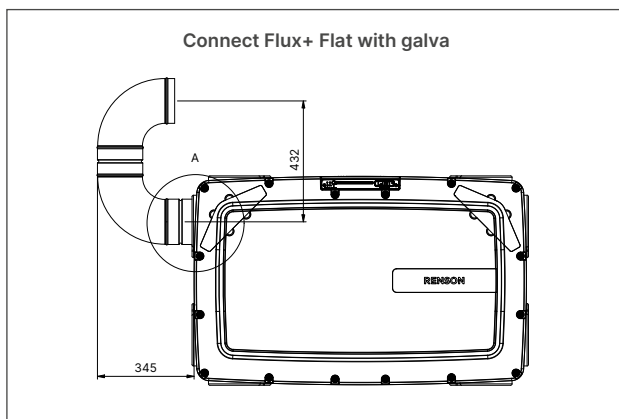
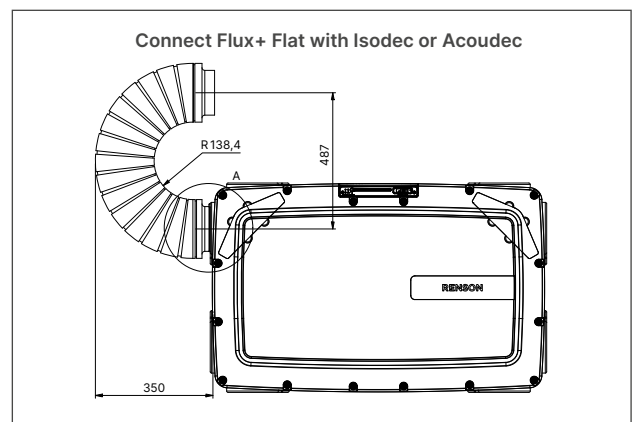
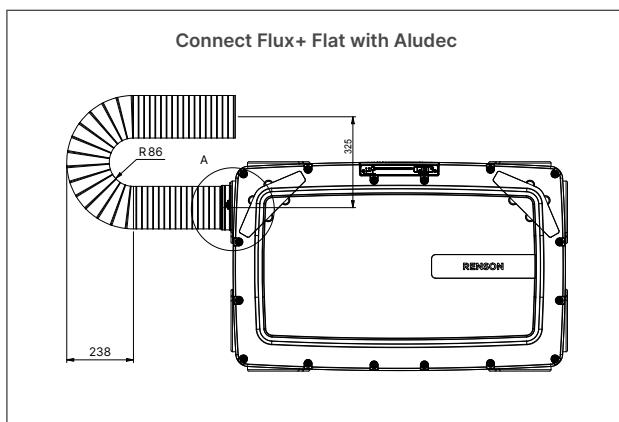
The Flux+ Flat has a total of 4x internal plenums, each with 2x Ø 160 mm connections. The unit is supplied with 4 installation flanges and 4x EPP caps as standard. Optionally, additional installation flanges can be used.

The following items can be bonded to the installation flanges:

- Renson Aludec Ø 160 mm
- Renson Isodec Ø 160 mm
- Renson Acoudec Ø 160 mm
- Renson Easyduct Ø 160 mm
- Galva channel Ø 160 mm

The connection must always be finished airtight, by using ALU tape for example.

4 different possible air duct applications and the minimum radii that are possible can be seen below. We display this so you can correctly dimension the installation of the Flux+ Flat in the room.



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6.9 • Vertical wall installation

6.9.1 • Parts

What do you need?

Article no.	Description	Quantity	Illustration
-	The drill template that forms a part of the handy box	1	

! NOTE

Mounting material to hang the unit on the wall is not supplied because this depends on the type of wall. It must be provided by the installer.

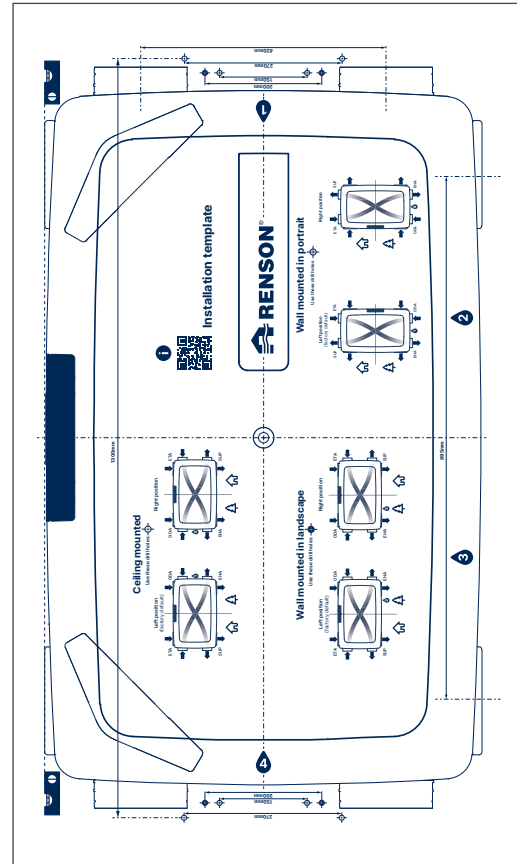
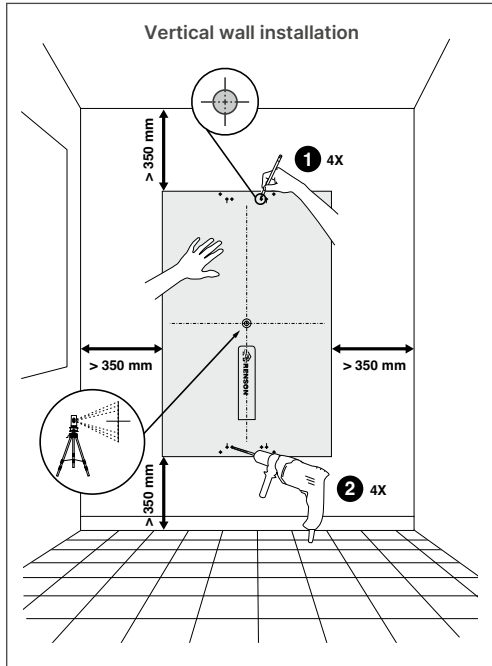
6.9.2 • Hanging up the unit

1. In preparation, the suspension brackets must be placed correctly on the unit, see Chapter 6.4.

💡 TIP

The suspension brackets are marked with a tree and a house, which refer to the outdoor connection BA (🌳) and the house connection HA (🏠) respectively. The condensation drainage point is on the side of the outdoor connection BA (🌳). Determine this position in advance as this has a major influence on how the pipes and drainage points will run.

2. Mark the wall for the mounting holes. Use a spirit level or laser to ensure the unit is hung horizontally and level on the wall (maximum deviation $<1.5^\circ$). Use the drilling template, which is a part of the packaging, to mark the holes.



Vertical wall installation (with screws and plugs) – hole pattern on the drilling template.

The bottom two holes must be at least 35 cm away from the finished floor to ensure there is still enough space to install the condensation drainage point.

The horizontal distance between the holes is 150 mm.

The vertical distance between the holes is 1250 mm.

For more information about working with the drill template, see Chapter 6.5.

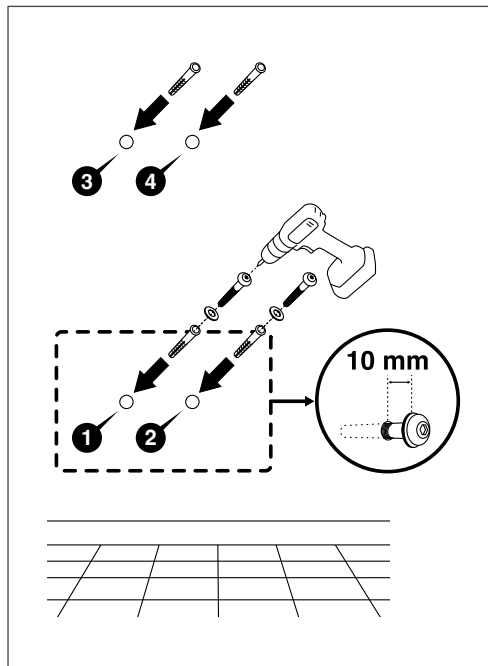
3. Drill the 4 holes and use suspension materials of your choice (for example plug and screw or threaded rod and nut); make sure it is suitable for the surface in question and sturdy enough to support the 25 kg unit.



TIP

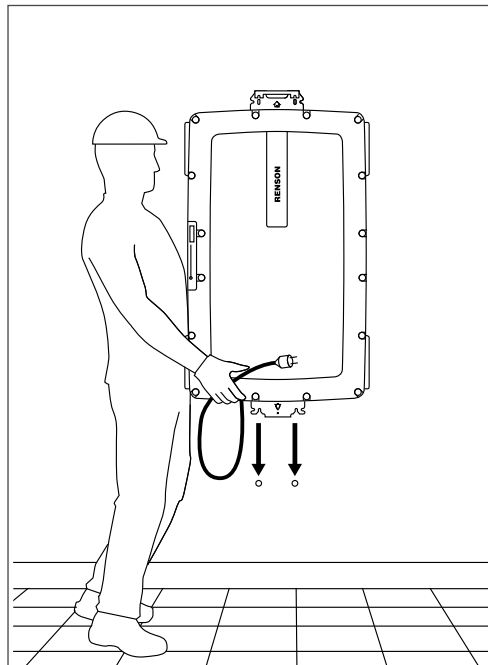
The recesses in the brackets are provided up to M8, it is always recommended that a flat washer be used.

4. Only screw the screws into the bottom 2 holes and let them protrude about one centimetre from the wall as shown in the figure.
 If a threaded rod is used, make sure there is a nut on the end.



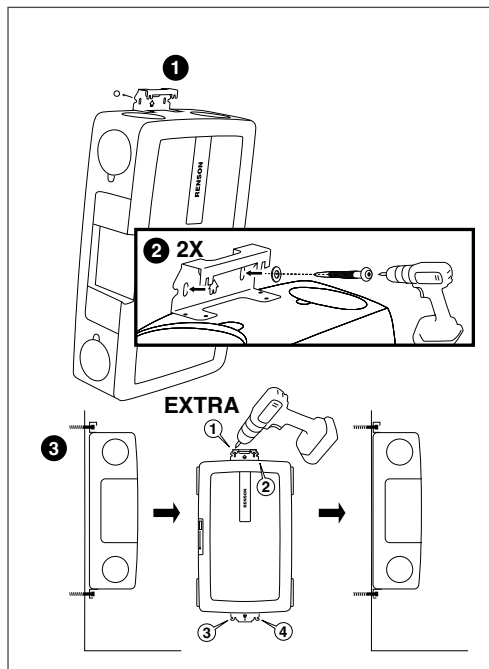
Vertical wall installation (with screws and plugs) – min. 1 cm distance between wall and head bolt for hooking in the unit.

5. Place the unit over the bottom 2 screws/rods. Let the unit rest for a while.



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7. Align the 2 other brackets over the top installation points.



Vertical wall installation (with screws and plugs) – The unit aligned over the pre-drilled holes.

8. Tighten the top installation points.

9. Tighten all the screws so the brackets are pulled against the wall. Start with the top screws.

TIP

The brackets offer a distance of 13 mm between the unit and the wall to allow the power cord to run behind the unit if necessary. The power cord is best placed in position just before fixing the unit.

10. Check the stability of the screws during installation. Then check the unit is installed vertically level, with a deviation $<1.5^\circ$.


11. The condensation drainage point can then be put in place, see Chapter 6.6.

12. Once the unit has been mounted safely and the condensation drainage point is connected, you can proceed to connecting the Flux+ Flat in Chapter 7.

6.10 • Horizontal wall installation

6.10.1 • Parts

What do you need?

Article no.	Description	Quantity	Illustration
-	The drill template that forms a part of the handy box	1	




NOTE

Mounting material to hang the unit on the wall is not supplied because this depends on the type of wall. It must be provided by the installer.

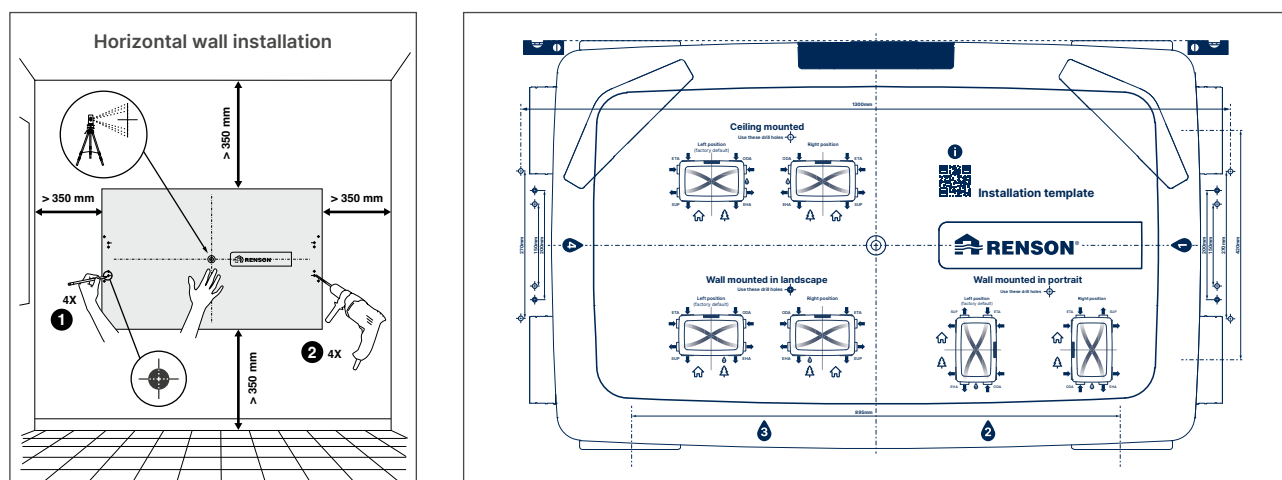
6.10.2 • Hanging up the unit

1. In preparation, the suspension brackets must be placed correctly on the unit, see Chapter 6.4.

TIP

The suspension brackets are marked with a tree and a house, which refer to the outdoor connection BA () and the house connection HA () respectively. The condensation drainage point is on the side of the outdoor connection BA (). Determine this position in advance as this has a major influence on how the pipes and drainage points will run.

2. Mark the wall for the plugs. Use the drilling template and an inclinometer for this. Make sure the unit is at a slope of 1.5° with the condensation drainage point at the lowest point.



Horizontal wall installation (with screws and plugs) – hole pattern on the drilling template.

The horizontal distance between the holes is 1230 mm.

The vertical distance between the holes is 150 mm.

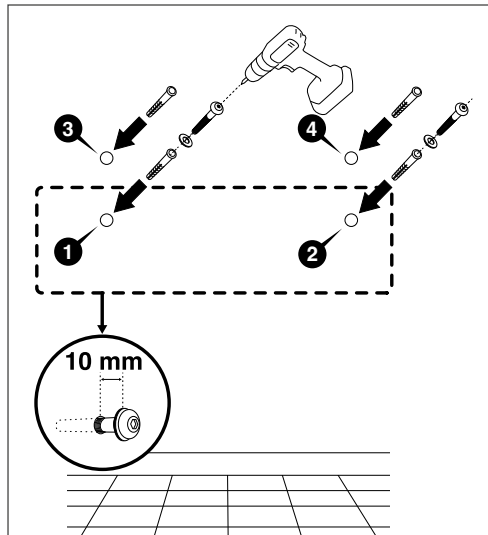
For more information about working with the drill template, see Chapter 6.5.

3. Drill the 4 holes and use suspension materials of your choice (for example plug and screw or threaded rod and nut); make sure it is suitable for the surface in question and sturdy enough to support the 25 kg unit.

 **TIP**

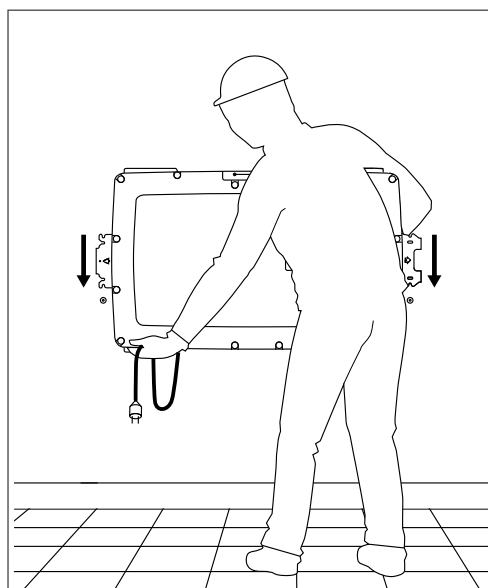
The recesses in the brackets are provided up to M8, it is always recommended that a flat washer be used.

4. Only screw the 2 screws into the bottom holes and let them protrude about one centimetre from the wall as shown in the figure.
If a threaded rod is used, make sure there is a nut on the end.



Horizontal wall installation – min. 1 cm distance between wall and head bolt for hooking in the unit.

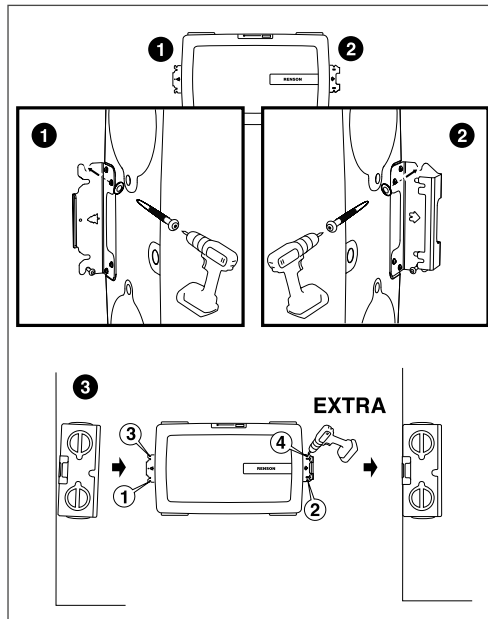
5. Move the unit to the installation location.
Hold the power cord off the ground while moving the unit. If the cord comes loose, it could easily cause you to slip, trip or fall.
6. Place the unit over the 2 bottom screws/threaded rods against the wall.



Horizontal wall installation.

INSTALLER

7. Align the 2 other brackets over the remaining pre-drilled holes.
Screw the screws into the holes in the wall as shown in the figure.



Horizontal wall installation – Tightened screws.

8. Tighten the screws or nuts so the brackets are pulled against the wall.
First secure the 2 top ones.

 **TIP**

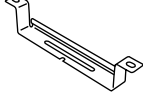
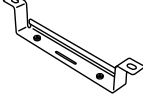




The brackets offer a distance of 13 mm between the unit and the wall to allow the power cord to run behind the unit if necessary. The power cord is best placed in position just before fixing the unit.

9. Check the stability of the installation. Then check the unit is installed horizontally at a slope of 1.5° (maximum 3°), with the condensation drainage point at the lowest point.
10. The condensation drainage point can then be put in place, see Chapter 6.6.
11. Once the unit has been mounted safely and the condensation drainage point is connected, you can proceed to connecting the Flux+ Flat in Chapter 7.

6.11 • Ceiling installation with QuickFix

What do you need?

6.11.1 • Parts

Article no.	Description	Quantity	Illustration
①	QuickFix bracket ceiling outdoor connection	1	
②	QuickFix bracket ceiling house connection	1	
③	DIN 912 – M6 × 30 – galvanised	3	
④	DIN 125 A – M6 – galvanised	3	
⑤	DIN 6798 A – M6 – galvanised	3	
–	The drill template that forms a part of the handy box	1	

! The necessary parts for this installation are included in the standard packaging of the unit.

6.11.2 • Hanging up the unit

! NOTE

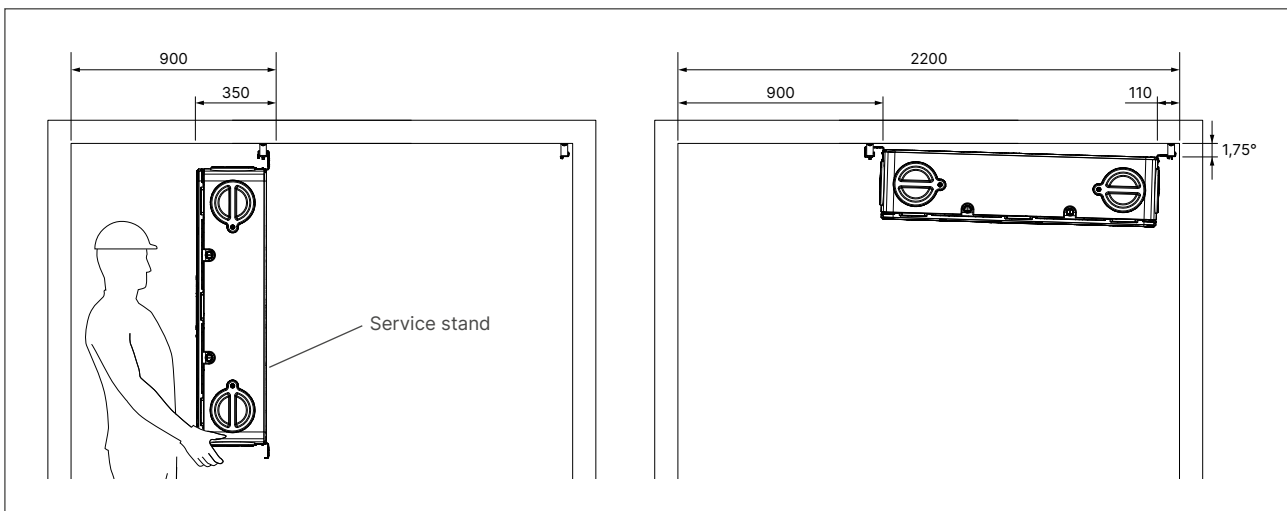
- The QuickFix may only be placed on a solid and flat ceiling. If the QuickFix is installed on a sloping ceiling, the unit may fall and cause physical and material damage. For installation on a sloping ceiling, the same method as for vertical wall installation is recommended.
- There are arrows on the ceiling brackets. The brackets must be installed so the arrows point towards the unit.

💡 For additional information about ceiling installation, see:
<https://www.youtube.com/watch?v=e3tIMHzHbmQ>

1. In preparation, the suspension brackets must be placed correctly on the unit, see Chapter 6.4.

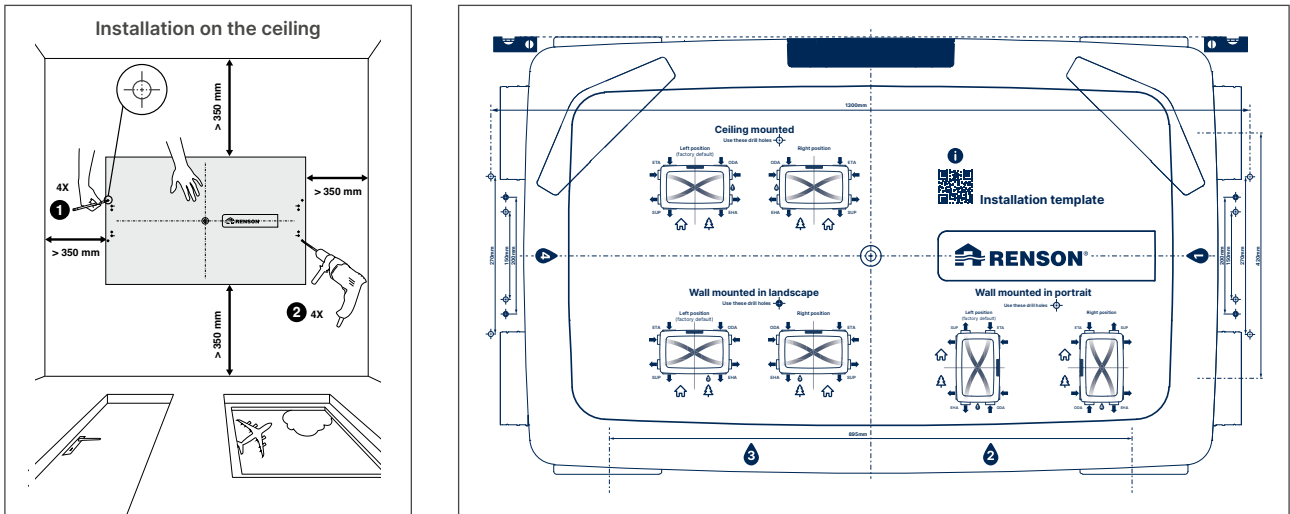
💡 TIP

- The QuickFix brackets are marked with a tree and a house, which respectively refer to the outdoor connection BA (🌳) and the house connection HA (🏠). The condensation drainage point is on the side of the outdoor connection BA (🌳). Determine this position in advance as this has a major influence on how the pipes and drainage points will run.
- To utilise the full functionality of the QuickFix, at least 90 cm of free space is required at the house connection HA (🏠) of the unit and at least 11 cm from the outdoor connection BA (🌳). In exceptional cases, a minimum free space of 35 cm is also sufficient, in which case the “service” position cannot be fully used (see figure). Depending on the placement and type of air ducts, more space may be required.



Ceiling installation with QuickFix – Min. 900 mm clearance required for optimal reach during maintenance (unit in mm).

2. Mark the holes for the mountings on the ceiling. Use the drilling template, included in the packaging, to mark the holes.



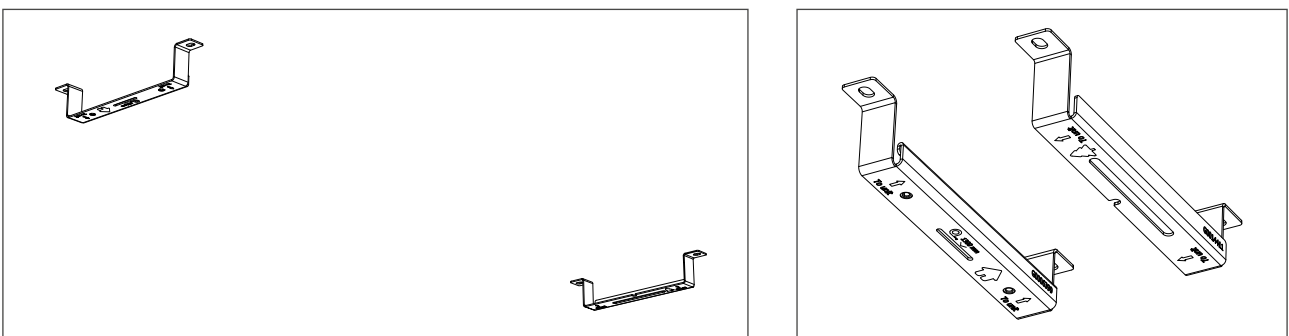
Ceiling installation with QuickFix – Position in room (unit in mm) – Hole pattern of the QuickFix.

3. Drill the 4 holes and use suspension materials of your choice (for example plug and screw or threaded rod and nut); make sure it is suitable for the surface in question and sturdy enough to support the 25 kg unit.

TIP

The recesses in the brackets are provided up to M8, it is always recommended that a flat washer be used.

4. Hold the QuickFix bracket with the tree (outside connection) against the ceiling, with the inscription "To unit" facing the place where the unit will be located, and mount them with the screws or to the threaded rods. Tighten the screws or nuts so the bracket is pulled against the wall.
5. Repeat this for the QuickFix bracket with the housing. Tighten the screws or nuts so the bracket is pulled against the wall. Check the brackets are tight.



Ceiling installation with QuickFix – Position of the "outdoor" QuickFix.

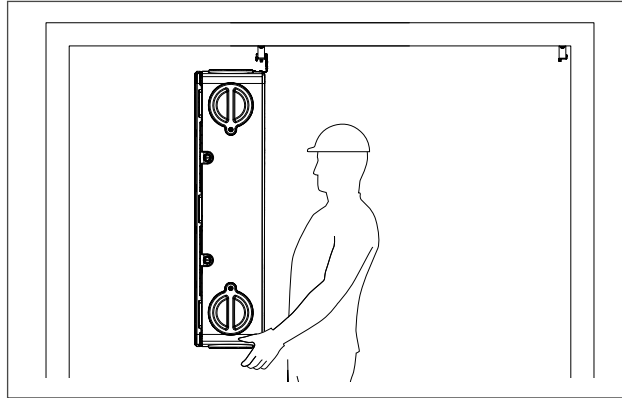
TIP

The QuickFix with the house is also the rotation point for the service stand. So the surface on which this bracket is mounted must be able to support at least +25 kg.

6. Move the unit to the installation location.

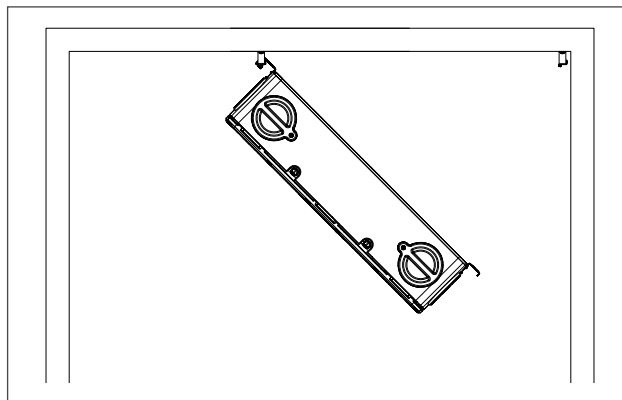
Hold the power cord off the ground while moving the unit. If the cord comes loose, it could easily cause you to slip, trip or fall.

7. Hook the unit into the bracket with the housing.

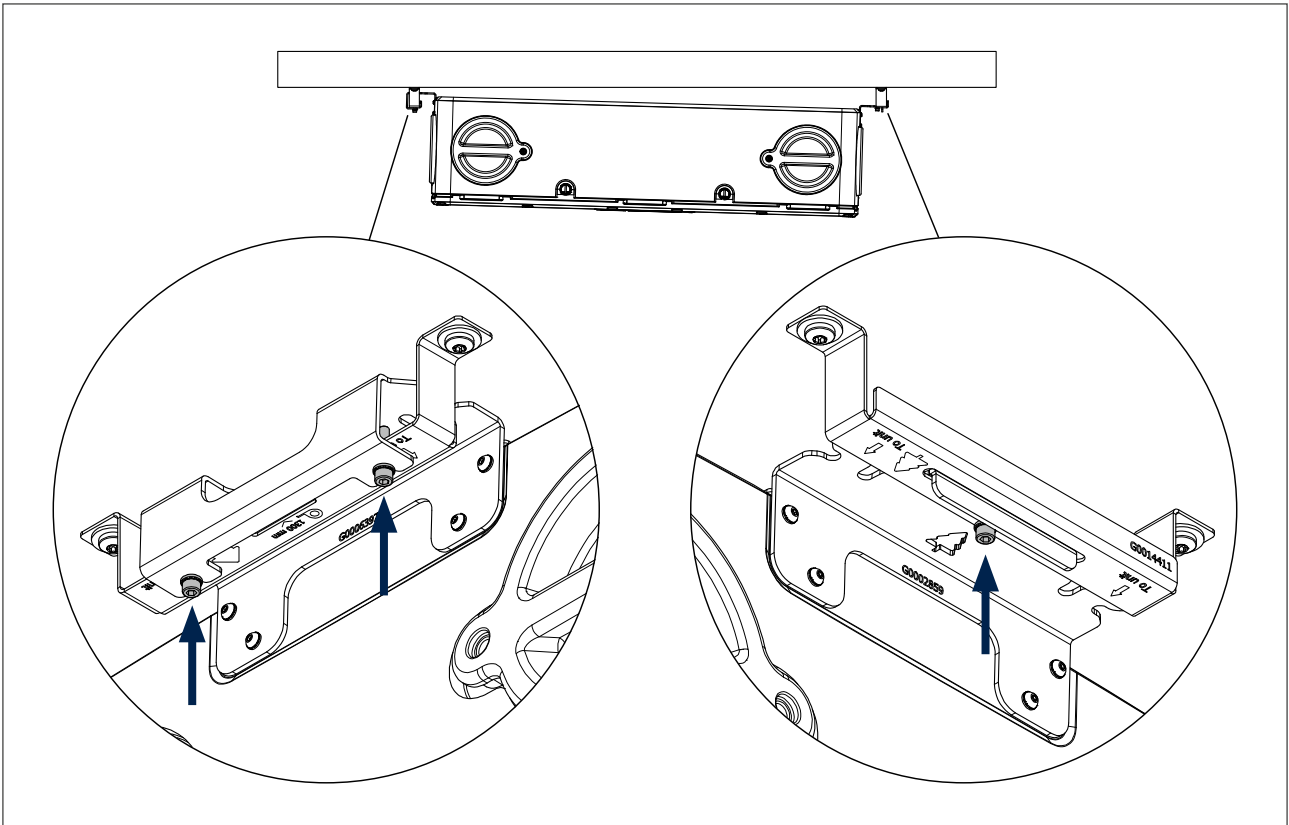


Ceiling installation with QuickFix – Hook the unit into the house connection side.

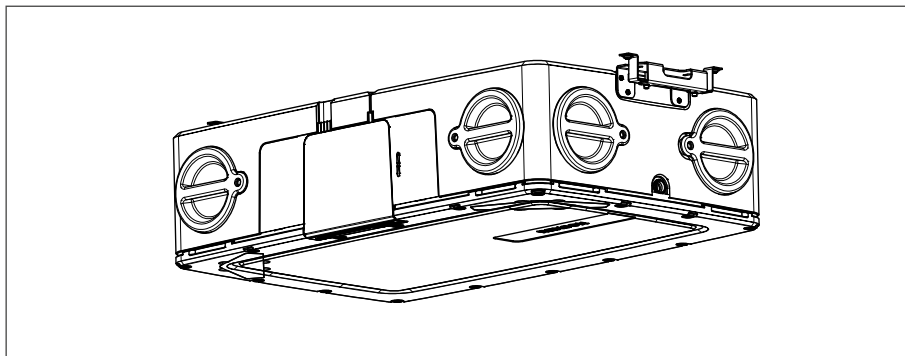
8. Swivel the unit upwards, in the direction of the QuickFix with the tree. And then hook it into the bracket.



9. Ensure the unit is securely attached by tightening the supplied 3xM6 bolts in combination with the knurled spring washer and flat washer at the indicated locations (see figure).



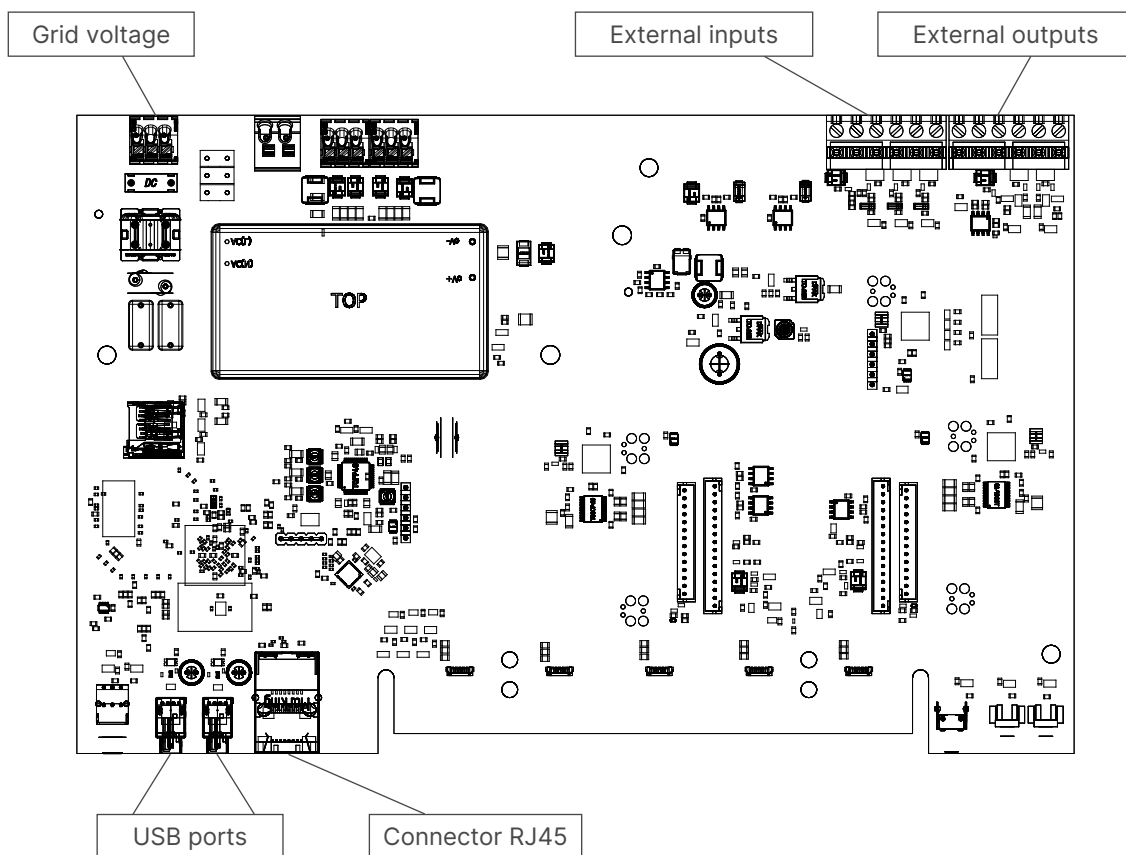
Ceiling installation with QuickFix – Fix the unit to the QuickFix “indoor”.



Ceiling installation with QuickFix – The unit is mounted on the QuickFix.

7 • Connection diagram Flux+ Flat

7.1 • Print Flux+ Flat



INSTALLER

- **Mains voltage:** connect to the wall socket or directly to the fuse box.
- **USB ports:** the USB port can be used to:
 - allow Flux+ Flat to use Wi-Fi to communicate with the home network and/or directly with the app installer. Use the supplied Renson USB Wi-Fi dongle for this.
 - allow Flux+ Flat to use RF communication with the Sense room sensor(s). Use the Sense RF dongle for this.
- **RJ45 connector network cable:** this connection can be used to connect Flux+ Flat to the home network via a network cable.
- **External output:** Flux+ Flat can control external devices (a detailed description can be found in Chapter 8.10).
- **External input:** Flux+ Flat can be controlled by external devices via the digital and/or analogue input(s) (a detailed description can be found in Chapter 8.10).

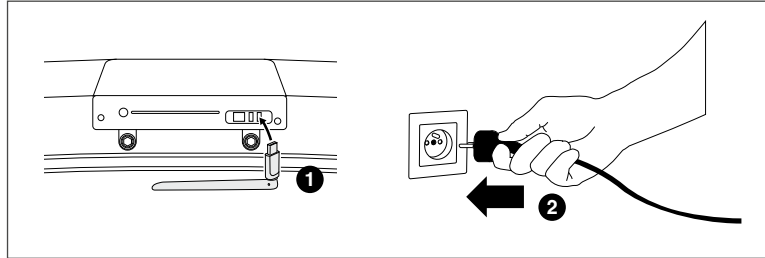
7.2 • Connecting to the network

Please refer to the instructions in Chapter 8.7.

7.3 • Connect to the mains voltage

Flux+ Flat can be fitted in 2 ways:

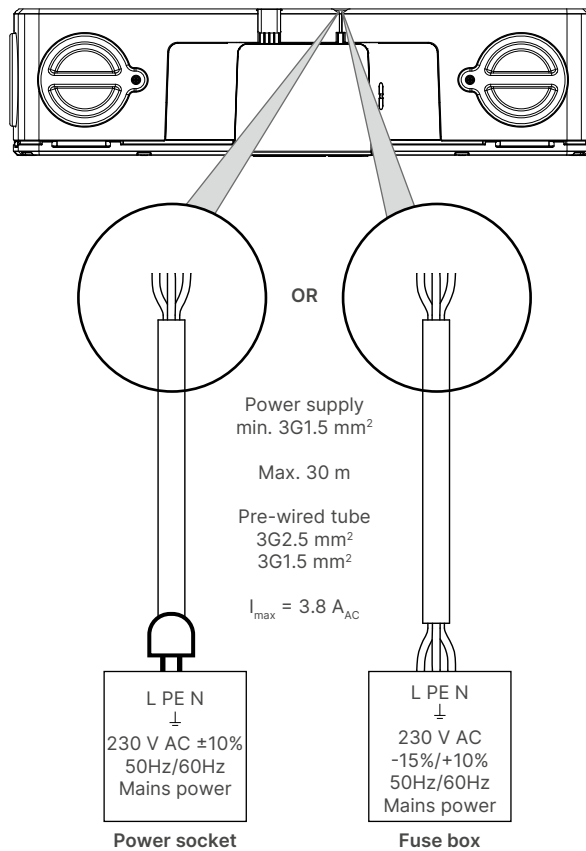
1. By plugging the supplied power cable into the socket (the socket should be in an easily accessible place). The socket must be within 400 mm of the unit.



2. By connecting directly to the fuse box. The wires of the cable must be stripped 6 mm before they are connected to the connection connector.

! NOTE

If the Flux+ Flat is connected directly to the fuse box, an automatic circuit breaker must be provided in the latter that can disconnect the Flux+ Flat from the power supply network. This unit must be of the double-pole type, must be directly connected to the Flux+ Flat, and must be able to withstand category III overvoltages.



! The installation and electrical connection of the various components may only be carried out by authorised personnel in accordance with the applicable safety measures.

8 • Starting up the Flux+ Flat

In this chapter we take you, the installer, through the installation flow of the application. Before following this step-by-step plan, please download the application from the respective store.

The start up and calibration of the unit can only be carried out with the app developed by Renson. This means you, the installer, will be completely relieved and receive the guarantee that the regulation has been carried out correctly. By using the app, the entire process will be faster, easier and more correct.



TIP

An internet or (WiFi) network is not required to calibrate the unit. A dongle is sufficient for calibration.

8.1 • Before starting the regulation

Extreme weather conditions, strong winds for example, can affect the operation of the system. Avoid adjusting the Flux+ Flat in these circumstances.



Before starting the automatic calibration it is important to:

1. Close all the windows and doors
2. Preferably close interior doors
3. Stop all other installations that bring outside air in or send indoor air out.

8.2 • Start up

The unique adjustment procedure, together with the constant flow feature, ensures the time for setting the desired design air flow rates is greatly reduced.

1. Power up the unit and ensure the Wi-Fi dongle is installed.
 - Start up check: the operating system of the unit has started up (this takes about a minute).
 - The configuration check then takes place: the fans first speed up briefly and then continue to run at the minimum speed. The bypass valves are also adjusted.
2. Feedback (LED) during the start up phase
 - A complete overview of how the unit's LEDs behave during start up can be found in Section 8.6.

8.2.1 • Calibration via the installation app

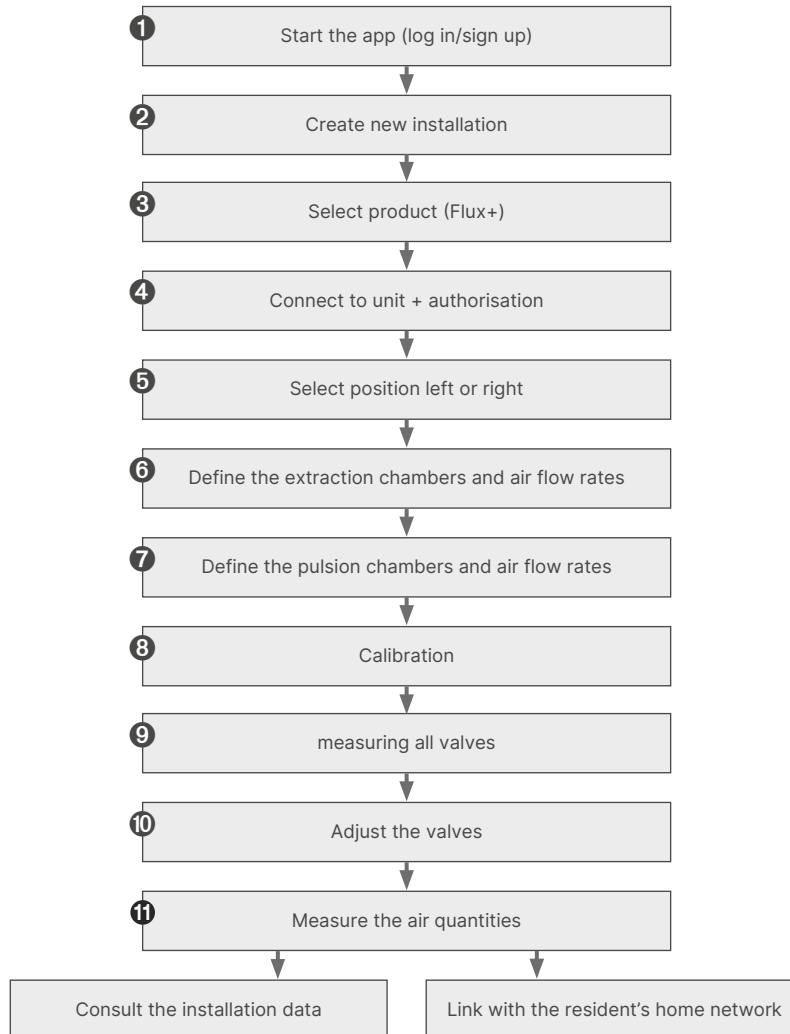
The **Renson Ventilation Set-up app** can be downloaded for free from the App Store (Apple) or Google Play (Android). Register to create an account.



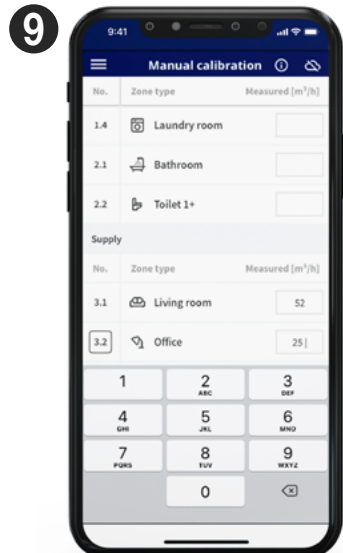
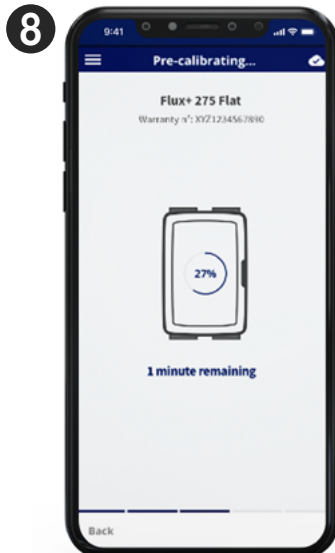
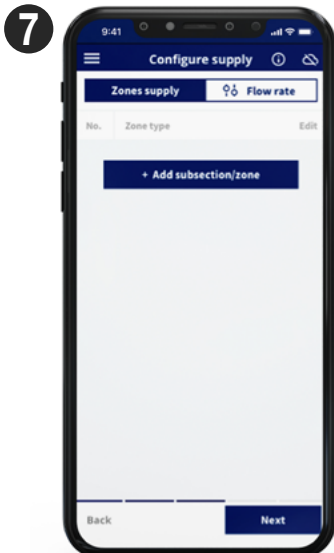
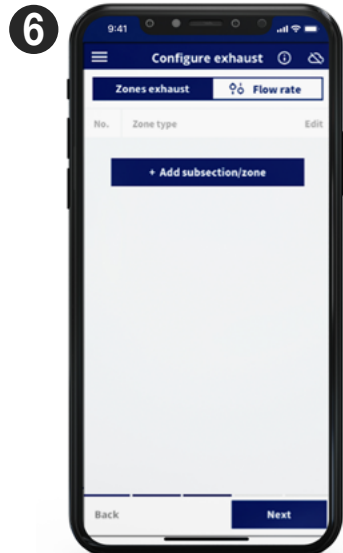
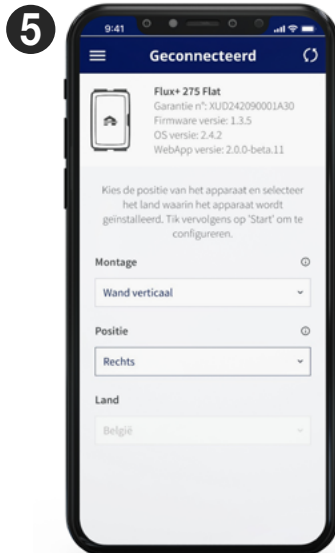
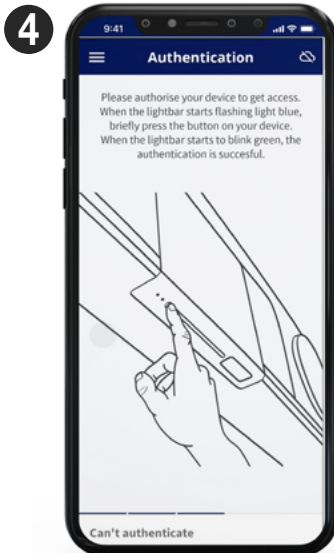
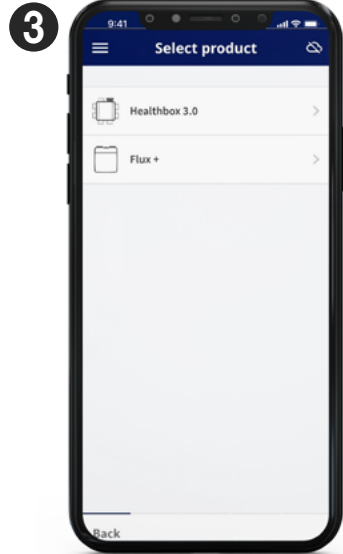
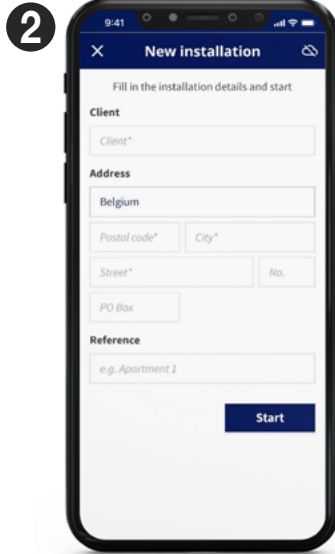
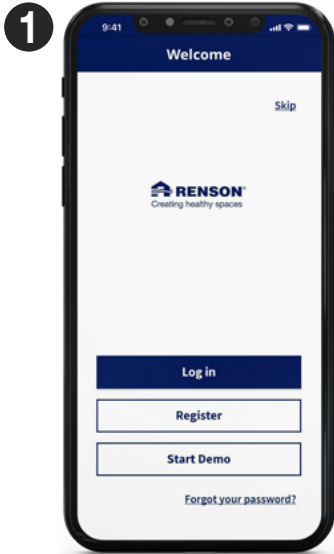
The benefits you experience from calibration with an app:

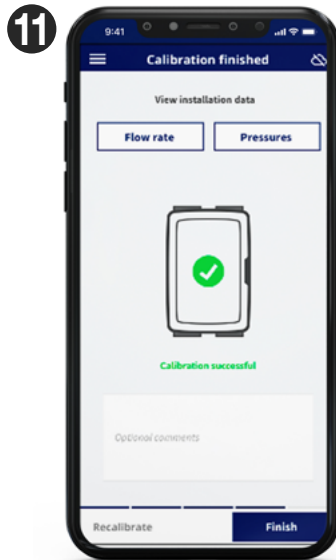
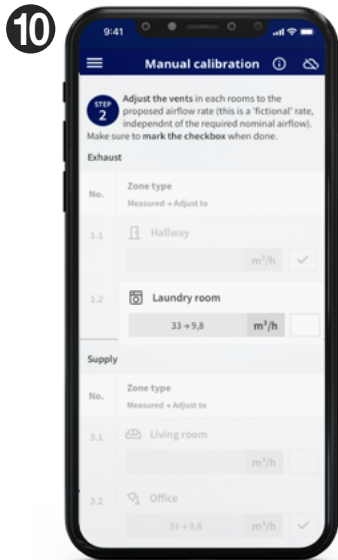
- Guide through the installation process
- Desired nominal air flow rates can be set/adjusted in a simple manner
- Configuration can be easily adjusted
- Overview of the pressure losses of the installation (after calibration)
- If a fault is detected during calibration, a message with a suggested solution appears
- The installation data is forwarded to the web portal
- An installation report is automatically created digitally in the web portal
- All started installations can be managed in the web portal

The installer is guided through the steps below during installation in the app:



INSTALLER





After successful calibration, you can connect the unit to a home network if there is one available. You also have the option to create an installation report, which can be used for SKH for example.

INSTALLER

8.2.2 • Error codes at start up

Two types of faults are defined:

- **Error:** the unit is experiencing a serious malfunction and will shut itself down.
- **Warning:** The unit has a fault, but can/will continue to operate.

The faults can be resolved in many ways:

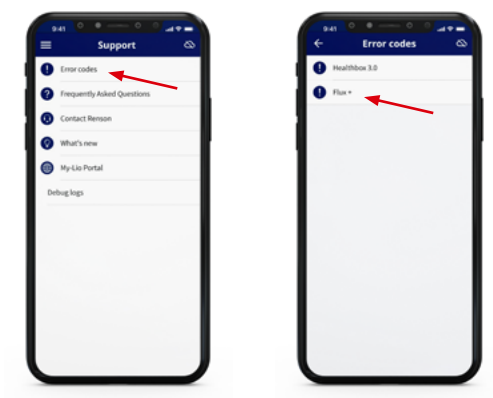
- **Installation app**

- If a fault occurs **during the initialisation process**, a message will appear.

How to continue the installation process?

Error	Requires corrective action to continue the installation process.
Warning	Taking corrective action is advised. However, the installation process can continue without corrective action.

- The list of possible malfunctions (and associated possible solutions) in Renson Ventilation Set-up can be consulted via the “Support” menu. The app must be connected to the internet (via Wi-Fi or mobile 4G/5G).



- **Fan unit**

The LED bar always shows the status of the unit, see Section 8.6.

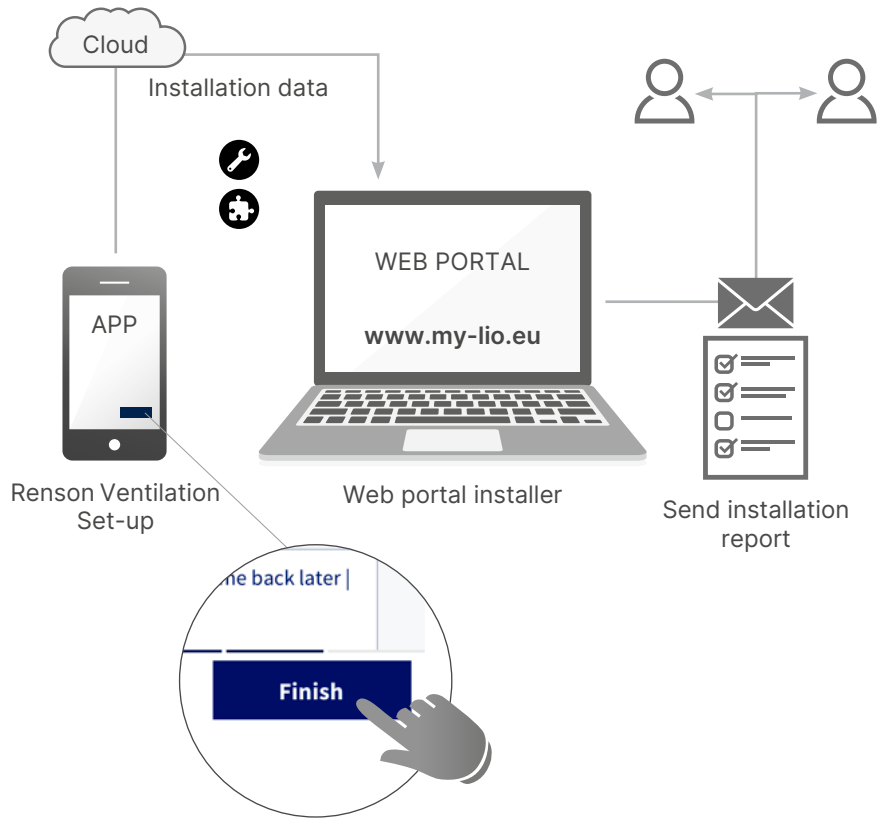
! REMARK

If the unit is without power for a short time, all error messages will be deleted.

8.3 • Installation report

Starting up Flux+ Flat with the Renson Ventilation Set-up app has the great advantage that all installation parameters are kept up to date in the installer’s web portal (Section 8.4).

An installation report with the installation data can then be automatically created digitally in the web portal and sent to the parties involved.



INSTALLER

8.4 • Web portal installer: My-Lio professional

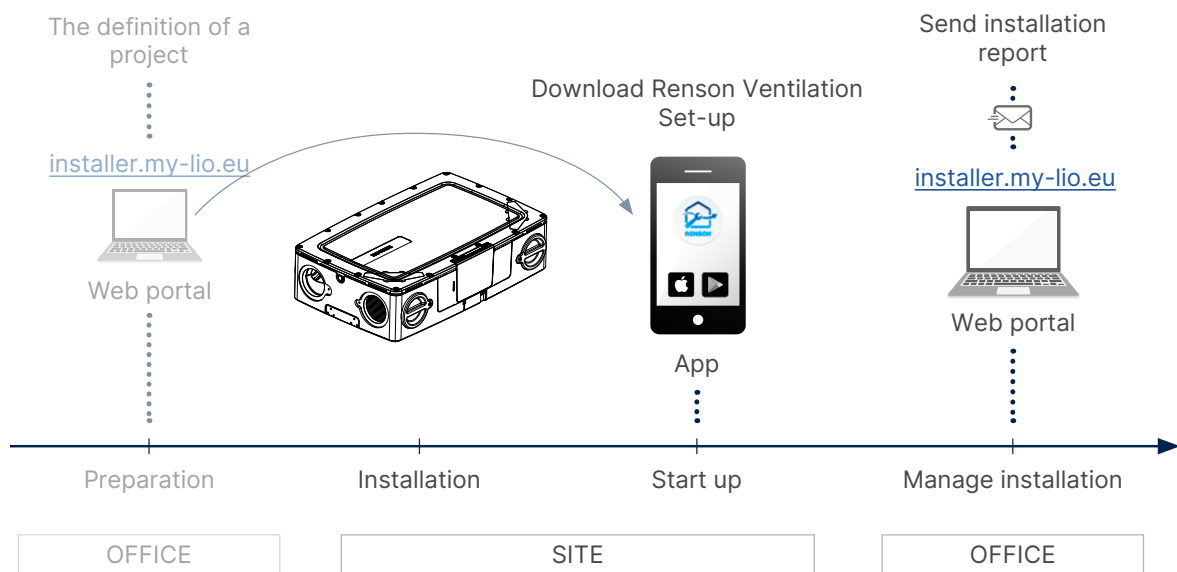
The web portal for the installer offers the following benefits:

- Projects can be created in advance at the office, with all pulsion and extraction valves and their corresponding values, ready in the app. This will ensure there is no loss of time on site.
- Installation data can be tracked
- Management of all installations
- Digitisation of paperwork (preparatory administrative work)

Start the web portal via the link <https://installer.my-lio.eu>

The account created in the installation app or web portal grants access to both.

Situation sketch: how/where/when the app and web portal are used within the installation process.



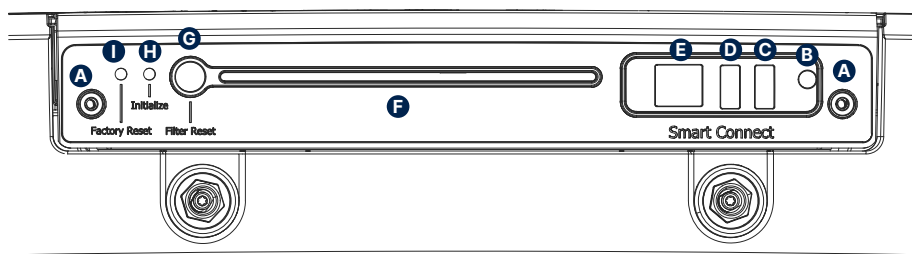
Instructional videos from the web portal:
<https://installer.my-lio.eu>



INSTALLER

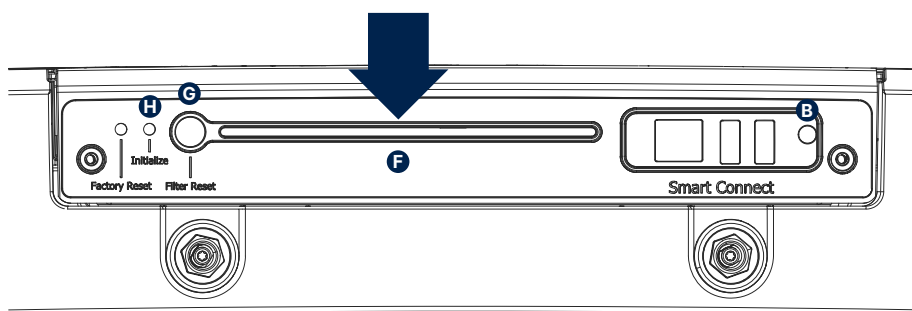
8.5 • Operating functionalities

If the unit is connected to the internet, the control panel allows you to communicate with the unit via the push buttons. We recommend this given the extensive functionality associated with it. The unit can be accessed perfectly via the app, which can be found in the Play store or via the Apple store. In this chapter, we will discuss the physical control and the colour codes of the indication LED.



Pos.	Name	Job title
A	Mounting screws	These should only be removed by an installer who has completed the training to replace the main circuit board.
B	Smart Connect button/LED	<ul style="list-style-type: none"> • If this button is pressed briefly, the unit will be in "Access Point mode" for 4 hours via the Wi-Fi dongle. You can connect the installer app to the unit. • If this button is pressed for 5 to 15 seconds, the link between your Wi-Fi dongle and your linked network will be broken. • If this button is pressed for more than 15 seconds, the unit will be disconnected from the My-Lio account to which it is currently linked. Use a pen to push the knob in.
C	USB port 2	A Wi-Fi dongle or RF dongle can be plugged in here. The choice is free in which USB slot this is placed. The USB port can be used to: - Wifi dongle: communication with the home network and/or directly with the installation app. - RF dongle: communication with the Sense room sensor(s)
D	USB port 1	
E	Ethernet connection	To connect the unit to the LAN network via a cable. If a Wi-Fi dongle is used via USB port 1 or 2, it is not necessary to connect the unit with a fixed cable. Tip: Connecting the device via cable has the most stable solution.
F	Status LED module	Changes colour depending on the status of the unit (see below for more explanation about the different colour codes).
G	Filter reset/Authorisation button (large button)	After cleaning the filters, you must reset the filter message. Do this by pressing it for 5 to 15 seconds. This large button is also used to complete authentication via the application.
H	Initialisation button	Operating the unit in nominal mode (= C mode with the nominal flow rates). This mode can only be activated when your unit has been successfully calibrated. Take a fine object to press the button.
I	Reset button	Reset to factory settings by pressing the button for more than 15 seconds. Use a pen to push the knob in.

8.6 • Status LED module



White



The status LED (F) lights up continuously white. The unit starts up. This is what you will see when the unit is switched on.

The LED will go out briefly after a short time. This is the time when the configuration is checked.

Please note: during the start up phase, a connection cannot be made with your unit via the application.

LIGHT BLUE



The status LED (F) flashes to indicate that you need to complete the authentication. To do this, press the Filter Reset/Authorisation button (G), the LED will then light up continuously for a short time. This indicates the authentication was completed successfully.

GREEN



The status LED (F) flashes slowly to indicate that the unit has not yet been calibrated with the application. This means the air flow rates have not yet been set in the various rooms in the home. When the unit is calibrating you will see the status LED (F) flashing quickly. When the calibration has been completed successfully, you will see the LED light up continuously.

BLUE



The status LED (F) lights up continuously blue. This means c-mode has been activated and your unit is now running at its set nominal mode. In this mode you can also measure the air flow rates at the various ventilation openings to check the air flow rates are correct.

RED



The status LED (F) flashes red slowly. This indicates that a critical problem has occurred with the unit. We recommend using the application to obtain more information about the error that has occurred (see Warning Section 8.2.2).

YELLOW CONTINUOUS



The status LED (F) lights up continuously yellow. This indicates that a critical problem has occurred with the unit. You can easily investigate what the problem is via the app on your smartphone (see Error Section 8.2.2).

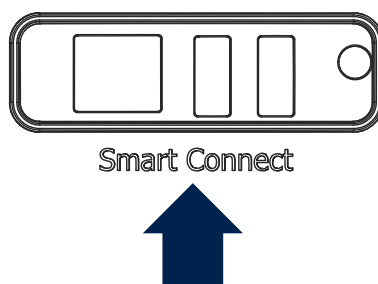
YELLOW FLASHING



The status LED (F) flashes yellow quickly. This is an indication that the filters need to be cleaned. Cleaning/replacing filters is described in Section 9.2. After doing this, press the "Filter Reset (G)" button for 5 seconds to state that the filter has been cleaned correctly, the filter message will be reset automatically.

8.7 • Connect to network (Smart Connect)

8.7.1 • Wi-Fi dongle



The Wi-Fi dongle must be plugged into one of the USB ports of the Renson Flux+ Flat Smart Connect zone. The Wi-Fi dongle can then be used to connect Renson Flux+ Flat with:

1. App for installer
The app guides how the installer can make the connection between the app and Renson Flux+ Flat (Renson Flux+ Flat works in “Access Point mode”).
2. Home network (Wi-Fi)
The connection to the Wi-Fi home network can be done with both the app for the user and the app for the installer (Renson Flux+ Flat works in “Client mode”).



TIP

- If Renson Flux+ Flat is connected to a network via the “user app”, the connection between “app for installer” and Renson Flux+ Flat is also possible via the Wi-Fi dongle.
- If a Wi-Fi dongle is unplugged and then plugged in again:
 - In Access Point mode: the connection must be made again
 - In Client Mode: the connection to the network will be reconnected automatically (even if the Wi-Fi dongle is plugged into the other USB port).
- If the Status LED module lights up white, the Renson Flux+ Flat cannot connect to the network.

- **Wi-Fi dongle activation**
 - Plug Wi-Fi dongle in Smart Connect
 - Power up the unit and wait approximately 1 minute
 - Renson Flux+ Flat automatically opens up for 4 hours to connect to the app for the installer. Pressing the button ends the open process for connection.

After the 4 hours have elapsed, Renson Flux+ Flat can be reactivated for 4 hours by inserting a thin object in the corresponding hole (button B page 65).

- **Reset Wi-Fi dongle**

Long press (between 5 and 10 seconds) on the button in the hole.

→ Disconnect the link with the home network (Wi-Fi) and/or installer app. Activation can then reconnect to a (different) Wi-Fi home network or the installer app.

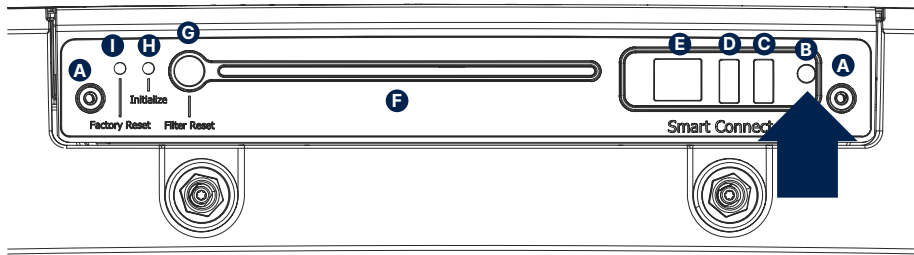
Resetting may be necessary in the following circumstances:

- To connect Renson Flux+ Flat to another network.
- Renson Flux+ Flat can no longer connect to the installer app or the home network.

8.7.2 • LAN connection

Plug a network cable in to the LAN connection for a fixed cabling alternative to the Wi-Fi dongle. The connection can be used to connect Flux+ Flat to the home network via a network cable.

8.8 • USB Smart Connect LED



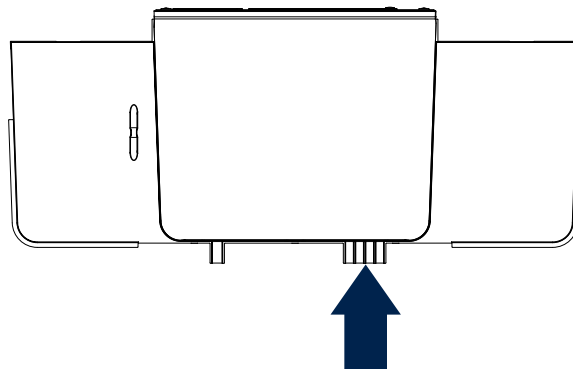
Access point active (connection between smartphone and unit) via (C) or (D)	Client active (connection of unit to home network)	LED code (B)
NO	NO	LED off
NO	YES	Lights up (the LED flashes quickly during connection)
YES	NO	Flashes slowly
YES	YES	Lights up (blinks briefly when Access point is activated)

INSTALLER

8.9 • Connecting the Flux+ Flat with electronic peripherals

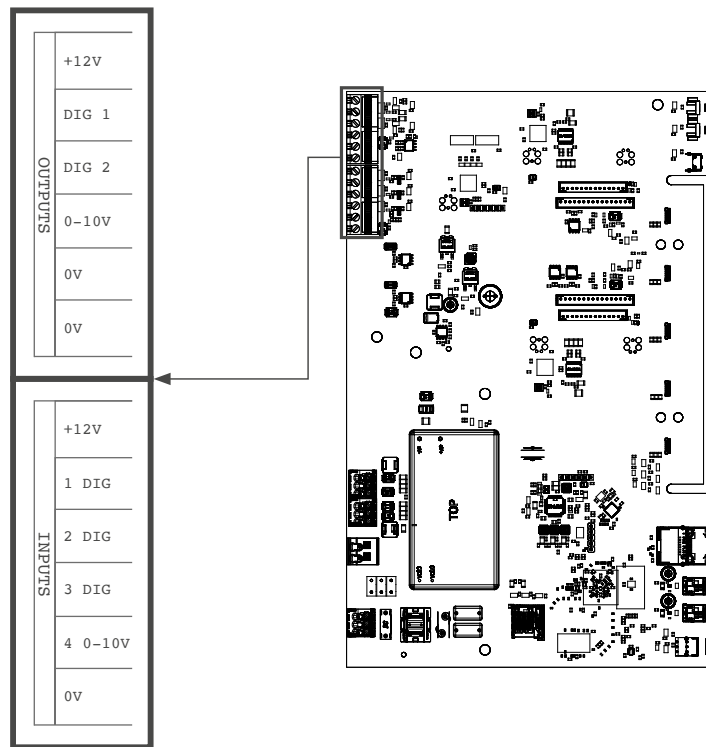
The Flux+ Flat can be connected to electronic peripherals. The provided recess can be used to route the cables outside the Flux+ Flat.

You must route the cables this way:

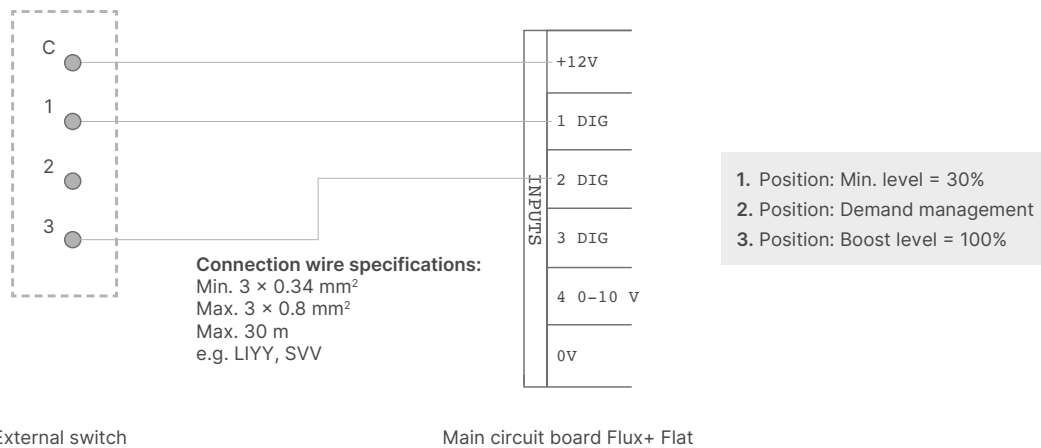


INSTALLER

8.10 • Link via main circuit board inputs and outputs



8.11 • 3-Position Switch (XVK3)



REMARK

This means contact 2 does not need to be connected, contact 3 is connected to “2 DIG”.

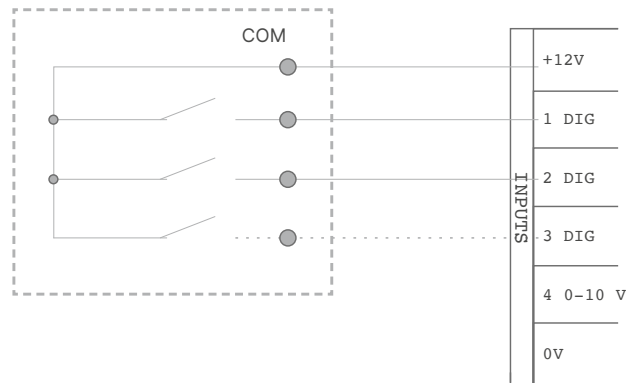
8.12 • Circuit diagrams for home automation

8.12.1 • Digital inputs

The digital inputs can be controlled in 2 different ways:

1. **Potential-free contact:** via a continuously closed contact

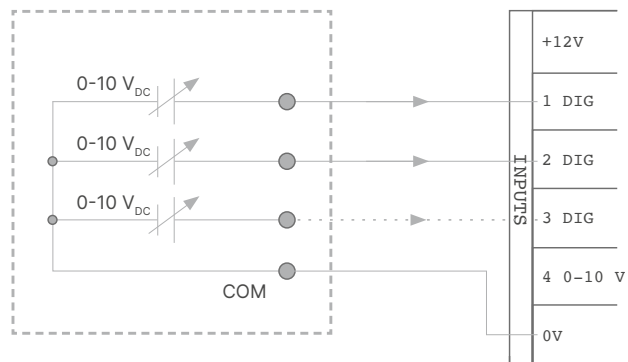
Principle sketch:



External switch

Main circuit board Flux+ Flat

2. **Voltage control:** via a continuous signal; → [0-1.5 VDC] sends a logic LOW, → [5-10 VDC] a logic HIGH



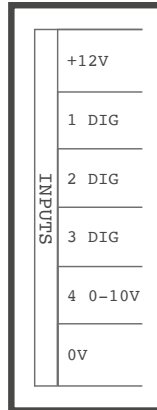
External control

Main circuit board Flux+ Flat

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8.12.2 • Analogue input

No function is associated with the analog input (0-10V).



8.12.3 • Functional logic

The functionality of the inputs is firmly defined:

8.12.3.1 • Digital input

Closed contact or logic HIGH on the input	Operating status Flux+ Flat
1 DIG	Minimum position ⁽¹⁾ - Demand control inactive
2 DIG	Boost position ⁽¹⁾ - Demand control inactive

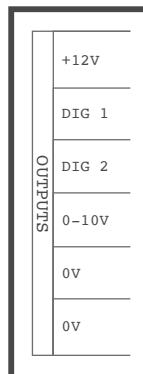
(1) After a period of 12 hours, the demand response of the Flux+ Flat is reactivated.

If there is no control at the input, the Flux+ Flat works in demand control (automatic mode).

8.12.3.2 • Analogue input

Currently no function assigned.

8.12.4 • Digital output



Functional logic:

- Contact DIG 1: display if there is an error/warning on the device (incl. notification filter)
- Contact DIG 2: filter warning of the device

9 • Maintenance

9.1 • Periodicities

Regularly replacing the filters forms the foundation for proper maintenance of any D system. This ensures no unnecessary contamination will occur in the relatively sensitive heat exchanger. This maintains efficiency and energy consumption. In addition, there are other inspections and cleanings that best take place on components such as valves, condensate drain, fans, air ducts, among others.

Through the link below you can find the frequency per component:

<https://renson.net/gd-gb/blog/ventilation-system-maintenance-vital-but-often-forgotten#d-system>



9.2 • Cleaning and replacing filters

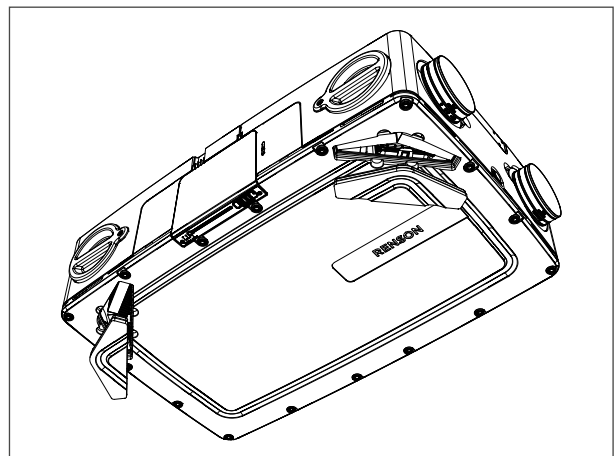
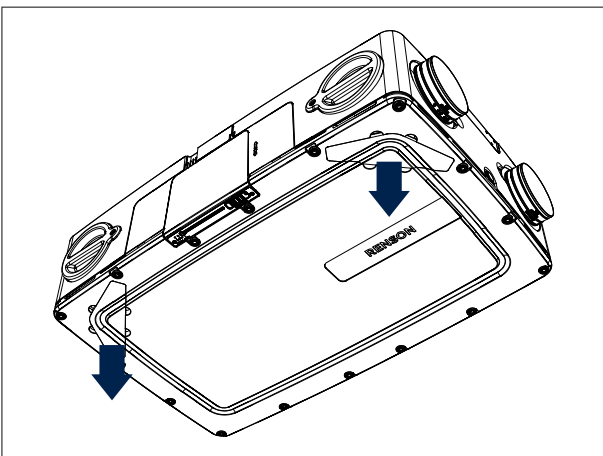
Do not use sprays, abrasives, detergents, solvents or chlorine-containing cleaning agents. They can cause damage to the unit. Clean Flux+ Flat with a damp cloth and a little solvent-free soap.

You can dry clean the filters with a vacuum cleaner or you can replace them. In either case, you will need to remove the filters as shown below. The filter must be replaced in response to a filter message. As a result, the unit displays that the filter needs to be replaced (see Section 8.6 for more information about the filter message).

NOTE

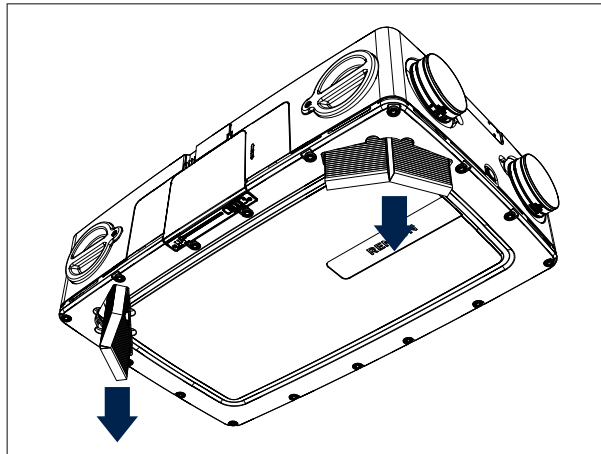
First ensure there is no power applied to the unit. To do this, remove the plug from the wall socket or switch off the machine.

1. Remove the filter covers.



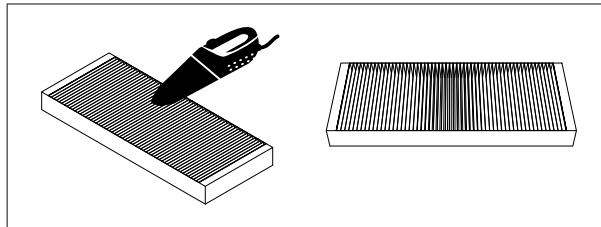
Removing the filter covers.

2. Replace or clean the filters, according to the stated maintenance intervals (see Section 9.1 Periodicities)



Removing the filter to clean or replace the filter.

3. Clean the filters using a vacuum cleaner. If you vacuum the filters regularly, the filter may show signs of wear. If so, replace the filter to continue to guarantee the correct functioning of the system.



4. Once you have ensured the filters are properly in place, replace the filter covers. The patented hinged filter ensures the filters cannot be fitted in the wrong direction. An innovation from Renson.
5. Press the large button (see Section 8.6) to reset the filter message. This means you can enjoy the unit again without any worries.

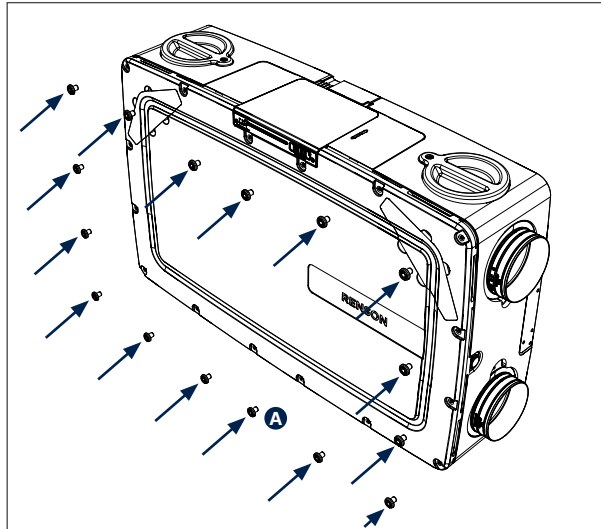
9.3 • Cleaning the heat exchanger

You can clean or replace the heat exchanger. In either case, you must follow the procedure below to remove the heat exchanger.

⚡ NOTE

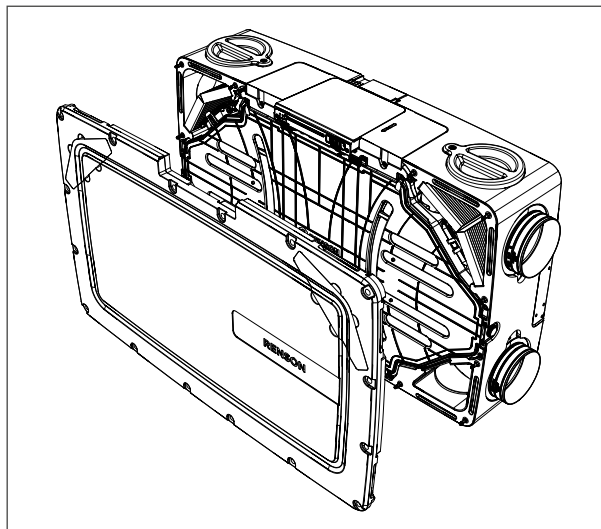
First ensure there is no power applied to the unit. To do this, remove the plug from the wall socket or switch off the machine.

1. Unscrew the cover (16 screws).



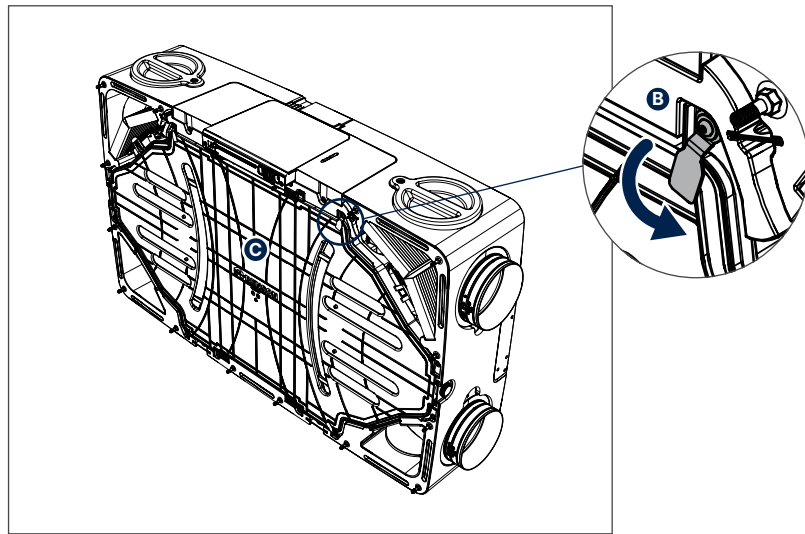
Loosen all 16 UPVC screws (A) before removing the cover.

2. Remove the cover.

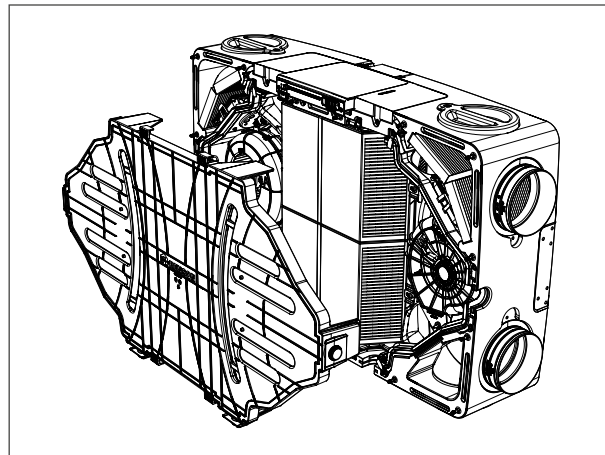


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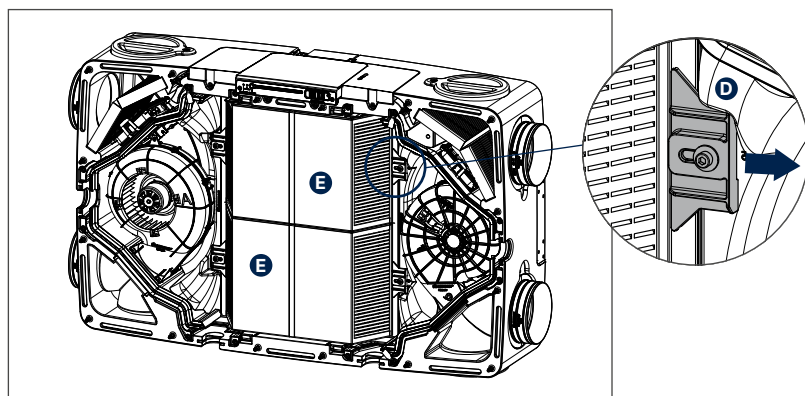
3. Unscrew the tabs (B) of the condensation collection tray (C) one turn and turn the tabs a quarter turn.



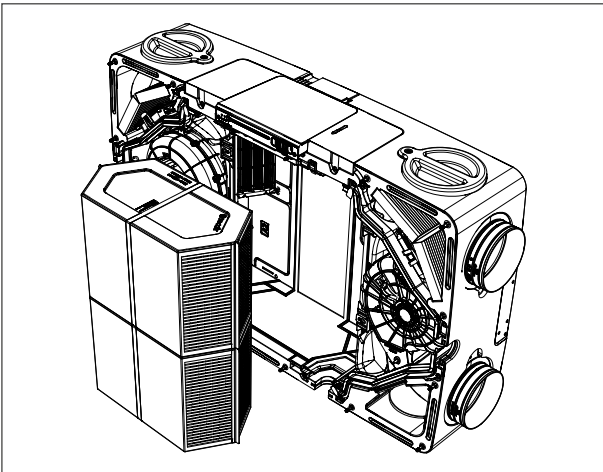
4. Remove the condensation collection tray.



5. Unscrew the heat exchanger retaining clamps (4 x) one turn and slide them out.

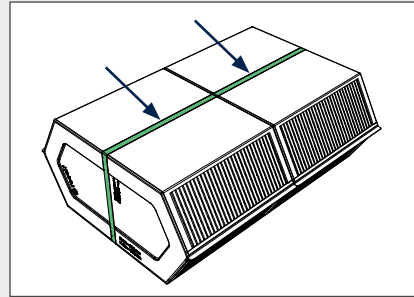


6. Remove the heat exchanger.



 **TIP**

You can hold the heat exchanger by the green straps.



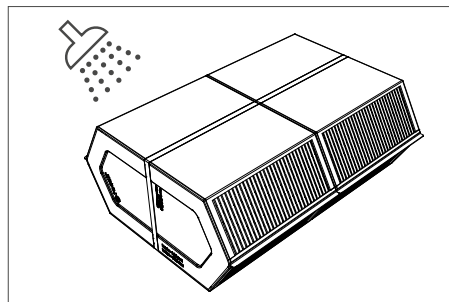
7. You can now clean the heat exchanger with clean warm water (max. 40°C) and washing up liquid. Under no circumstances should you use aggressive or dissolving cleaning agents.

- Rinse the heat exchanger sufficiently with clean warm (max 40°C) water.

 **NOTE**

Shake the water out of the heat exchanger and let it dry before placing it back in the unit.

- Make sure you place the heat exchanger back in the same position



8. Replace all components in reverse order and close the unit.

 **TIP**

The anti-compression screws are limited so they cannot be broken.

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9.4 • Cleaning the sensors

This chapter describes how the sensors can be cleaned if they are dirty. Always replace your filters in good time; your filters protect the internal components in the unit and guarantee that everything will continue to work properly. This also allows you to avoid having to perform this time-consuming operation.

Step 1 • Remove filters: remove both filters so the sensors are accessible.



Step 2 • Clip the connection box out of its socket (if you can remove one of the side caps, you may have easier access to go directly to step 4).



Step 3 • Pull the connection box out a little so you have access to the sensor.



Step 4 • Clean the sensor housing with a dry cloth to clear all the openings.



Step 5 • If necessary, clip the sensor housing open so the inside can also be carefully cleaned with a dry cloth.



Step 6 • Reassemble the unit in the reverse order.

All photos shown are for illustration purposes only and merely serve as an example of a practical situation.
The actual product may vary due to adjustments to the product.
Renson® reserves the right to make technical modifications to the products shown.
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