RENSON®

Creating healthy spaces

Endura® Delta

Installer & User manual

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1 • Professional product

The RENSON® Endura Delta is a balanced ventilation system with heat recovery. The unit mechanically brings fresh air into the home and mechanically extracts "polluted" air from the home using two integrated fans.

The RENSON® Endura Delta is a professional product and must therefore be installed by a qualified installer.

- This manual has two parts: one for the installer and one for the user.
- This **installation manual** contains all of the necessary information on installation, problem-solving, and maintenance. Please read through this manual carefully before connecting or servicing the unit.
- The **user manual** contains all the necessary information on using the unit, easy maintenance, and what to do in case of error messages.

2 • Materials, packaging and the environment

Ensure that the packaging materials are disposed of in an environmentally friendly manner after taking the unit out of the packaging. By recycling the packaging, the use of raw materials is lessened and the waste mountain is reduced.

Disposing of the unit
Old electrical and electronic appliances often contain materials that are still valuable. However, they also contain hazardous materials, which are necessary for the operation and safety of the appliance. You must therefore never dispose of a discarded appliance with the regular waste.

Please dispose of the appliance in an environmentally friendly manner, by taking it to the appropriate recycling centre.

3 • General regulations and safety regulations

The appliance in this packaging complies with the applicable CE safety requirements.

CE

RENSON® Ventilation nv
IZ 2 Vijverdam
Maalbeekstraat 10
B-8790 Waregem

- The Endura Delta complies with the legal requirements that are applicable to electric appliances.
- Exposure to radio waves.

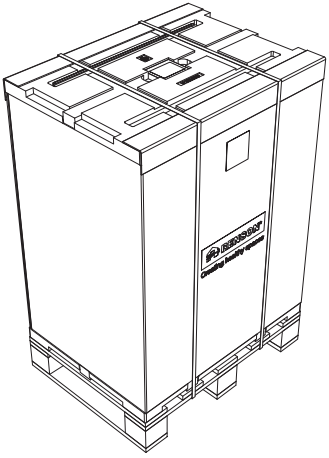
If you equip the Endura Delta with air quality sensors (slave) that communicate wirelessly with a Master TouchDisplay, the data is sent via a high-frequency transmitter and receiver.

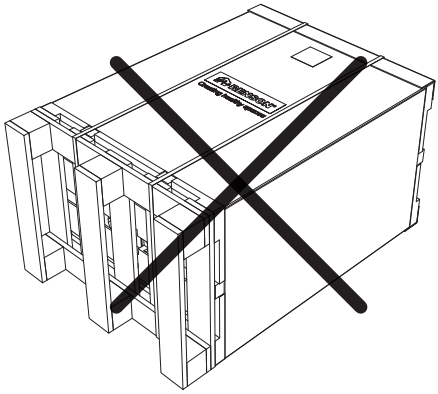
3.1 • General instructions

- Always comply with the safety regulations, warnings, remarks, and instructions in the manual. Non-compliance with these safety regulations, warnings, remarks, and instructions can result in damage to the unit or personal injury, and RENSON® NV cannot be held liable for this.
- The installation of the Endura Delta must be done in accordance with the generally and locally applicable construction, safety, and installation regulations laid down by the municipality and other bodies.

3.2 • Transport

- The necessary caution should be taken during transport and unpacking of the unit. Avoid severe jostling of the unit during transport and handling. When transporting using a forklift, the unit must be secured to the pallet at all times.
- The front panel of the unit is tempered glass. So you must exercise caution when transporting and installing the unit. The packaging has been adapted in such a way that the unit can be transported under normal conditions without being damaged.
- Transport and store the unit in the upright position. The unit may never be transported on its side due to the glass front panel.





3.3 • Setup and installation

- This unit is intended for indoor use, in a domestic setting. If there is a deviation in the setup, please contact RENSON®.
- Only recognised RENSON® installers may install, connect, start-up, and service the Endura Delta for maintenance, unless otherwise stipulated in the user manual.
- The Endura Delta may NOT be placed in rooms where the following are present or could occur:
  - Excessively greasy atmosphere;
  - Corrosive or flammable gases, liquids, or vapours;
  - Room temperatures above 40°C or under 2°C (the Endura Delta must be installed in a frost-free location!);
  - Relative humidity above 90%, or installed outdoors.
- The unit, plus related components and controls, may not be used in locations where they could potentially be exposed to jets of water.
- All cabling must be done by a qualified person.
- Ensure that the power supply is 230 V, single phase, 50 Hz.
- When installing the unit, take the conformity with the noise requirements according to the applicable standard (Belgium: NBN S01-400-1, Section 8) into account.
- In order to bring in fresh air and extract "polluted" air, the supply and discharge of outdoor/indoor air must take place through the roof (roof ducts) or through the wall (wall ducts). Keep in mind that the roof ducts must be sufficiently water-repellent and that the drop in pressure is kept to a minimum (≤ 15 Pa at 250 m^3/h).
- The unit may only be used with the appropriate RENSON® accessories and controls.
- Changes may not be made to the Endura Delta.

3.4 • Operating the system

- It is the installer's responsibility to inform the user on how the unit works and how it can be serviced for maintenance.
- Only use the unit for the purposes for which it has been designed, as stated in the manual.
- The maintenance instructions must be followed strictly in order to prevent damage and/or wear and tear (See Section 12: "Cleaning and maintenance").
- We recommend signing a maintenance contract.

3.5 • Safety instructions

- The unit must have contact hazard protection. This entails, among other things, that the resident cannot come into contact with moving parts or live electrical connections under normal circumstances without having consciously done something, such as:
  - Removing the front panel with the appropriate tools;
  - Disconnecting a duct while the unit is operating.
- The unit cannot be opened without using tools. Opening the unit can cause damage to the unit or personal injury.
- The fingers could be injured in the opening at the top, where there is access to the fan.

Extra safety measures:
- Always ensure that the unit is turned off and unplugged before starting to work on it. Do this by unplugging the power cable from the wall socket or by switching off the fuse (always check to see if this has actually been done!).
- Always wait at least 30 seconds before turning the power back on.
- Use the appropriate/correct tools when working on the Endura Delta.

PLEASE NOTE:
The ventilation system must continuously operate, i.e. the Endura Delta may never be turned off (legal requirement according to NBN D50-001, Chapter 4.2 System D).

3.6 • Frost protection

The Endura Delta is equipped as standard with a frost protection mechanism (see Section 10.2.5.1.3.a) to prevent frost from forming in the heat exchanger. When frost forms, there is a decrease in your ventilation system's yield and the heat exchanger could be damaged.

Every Endura Delta unit is equipped with basic frost protection. In addition, you can opt to have the unit equipped with an electric preheater to guarantee that the unit continues to operate correctly even in very harsh winter temperatures.
The preheater cannot be installed afterwards. So please make sure you are ordering the correct type of unit, with or without a preheater, before confirming your order.

PLEASE NOTE:
It is important that the Endura Delta is always connected to the mains voltage so that the frost protection is guaranteed.

4 • Description of the ventilation unit

4.1 • General description of the unit

The RENSON® Endura Delta is a balanced ventilation system within integrated heat exchanger. Fresh air is blown into the home by 2 fans, which also extract the "polluted" air from the home. The heat in the discharged air is partially transferred to the supplied fresh air via the counter-flow plate. In order to guarantee an optimal yield, the system must operate in a balanced manner (supply = discharge) as much as possible.

The correct operation of the Endura Delta is only guaranteed if there are sufficient and correctly dimensioned air openings in the home's interior doors. A door grille or a space under the door can be added with a minimum feedthrough of 25 m^3/h at 2 Pa.

- The Endura Delta is available in the following models:
  - The unit is available in a left-facing (L) model (bypass and filters positioned to the left), but can be converted to a right-facing (R) model.
  - The unit is also available with 4 upper connections (T4) or with 2 upper and 2 lower connections (T2/B2).
  - The unit is available with or without an integrated preheater (extra frost protection) (PH).

Description	Item no.	Description	Item no.	Description	Item no.
ED 330 T4	76050800	ED 380 T4	76050804	ED 450 T4	76050808
ED 330 T4 PH	76050801	ED 380 T4 PH	76050805	ED 450 T4 PH	76050809
ED 330 T2/B2	76050802	ED 380 T2/B2	76050806	ED 450 T2/B2	76050810
ED 330 T2/B2 PH	76050803	ED 380 T2/B2 PH	76050807	ED 450 T2/B2 PH	76050811

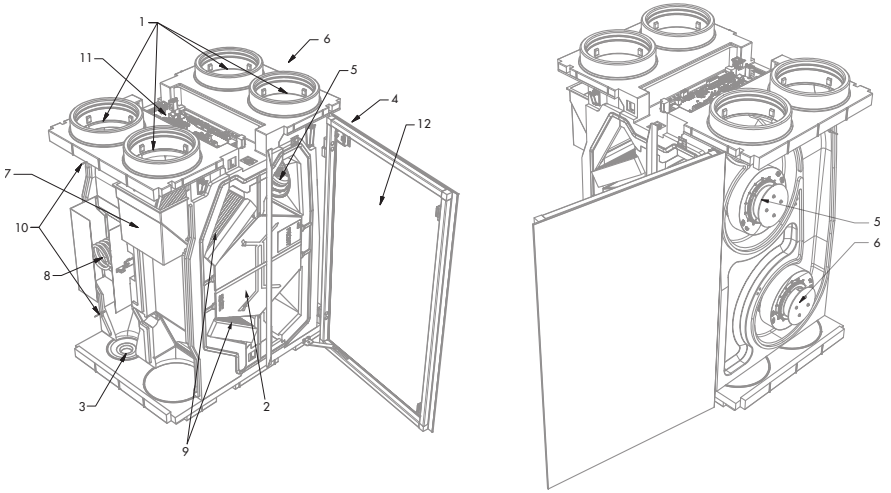
4.2 • Inspection upon delivery

Immediately contact the supplier if damages are noted when opening the packaging or if it appears that the delivery is incomplete.

Every delivery contains the following components:
- Endura Delta: check the label on the inside of the door to make sure that you received the correct type. The types are described in the table above.
- 1 Fixation bracket
- 1 Condensate drainage connection (water lock not included)
- Optional: 1 Controller
- 1 Power cable (with IEC connection)

4.3 • Composition of the unit

Unit cross-section: assembly



Example: ED 380 T4 L PH

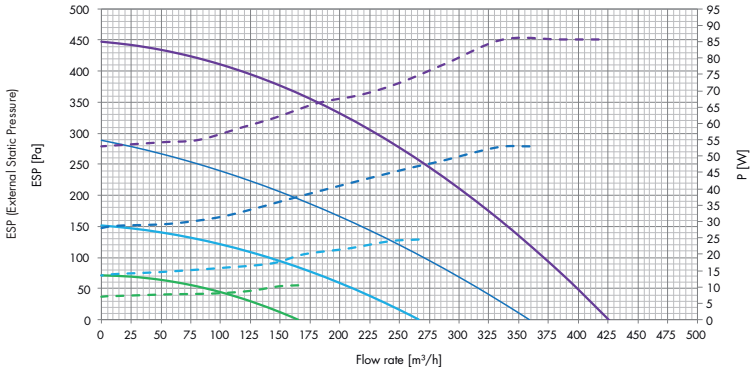
No.	Description
1	Connections 150/180 mm
2	Counter-flow heat exchanger
3	Condensate discharge
4	Integrated control (only for types 380 and 450)
5	Supply fan
6	Extraction fan
7	Bypass
8	Preheater
9	Filters
10	Temperature sensors
11	Control printed circuit board
12	Glass front panel (only for types 380 and 450)

4.4 • Technical specifications

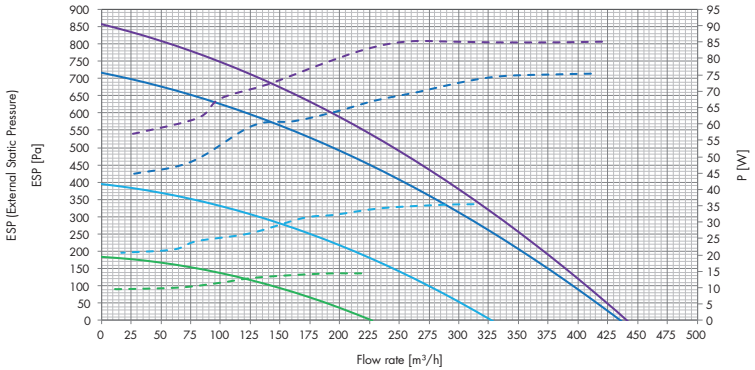
	Endura Delta 330	Endura Delta 380	Endura Delta 450
Flow rate	330 m^3/h at 150 Pa	380 m^3/h at 150 Pa	450 m^3/h at 150 Pa
Fans	EC fan with forward curved blades, constantly driven by volume	EC fan with backward curved blades, constantly driven by volume	EC fan with backward curved blades, constantly driven by volume
Max. power	2x 85W	2x 83W	2x 115W
Max. power preheater	1000W	1000W	1000W
Heat exchanger	PS	PS	PS
Thermal yield measured according to EN308	89% at 100 m^3/h 87% at 150 m^3/h 84% at 250 m^3/h 82% at 325 m^3/h 81% at 350 m^3/h	88% at 100 m^3/h 85% at 200 m^3/h 83% at 300 m^3/h 81% at 400 m^3/h	87% at 100 m^3/h 83% at 250 m^3/h 81% at 350 m^3/h 79% at 470 m^3/h
Connections	Ø180mm 4 upper connections (T4) 2 upper and 2 lower connections (T2/B2)	Ø180mm 4 upper connections (T4) 2 upper and 2 lower connections (T2/B2)	Ø180mm 4 upper connections (T4) 2 upper and 2 lower connections (T2/B2)
Bypass	Modulating	Modulating	Modulating
Filters	2 x coarse (G4) PM1 (F7) optional	2 x coarse (G4) PM1 (F7) optional	2 x coarse (G4) PM1 (F7) optional
Controls	Smartphone / Tablet Optional: 4-position switch	Integrated TouchDisplay Smartphone / Tablet Optional: 4-position switch	Integrated TouchDisplay Smartphone / Tablet Optional: 4-position switch
Frost protection	Automatic through temporary imbalance Optional preheater (proportional and no imbalance)	Automatic through temporary imbalance Optional preheater (proportional and no imbalance)	Automatic through temporary imbalance Optional preheater (proportional and no imbalance)
Casing	Coated steel plate	Coated steel plate	Coated steel plate
Weight	41 kg	46 kg	46 kg
Materials inner part	Expanded Polypropylene	Expanded Polypropylene	Expanded Polypropylene
Condensate discharge	Integrated Ø 32 mm	Integrated Ø 32 mm	Integrated Ø 32 mm
Contacts	0-10 V IN/OUTPUTS	0-10 V IN/OUTPUTS	0-10 V IN/OUTPUTS
Sensors	Integrated temperature sensors Integrated humidity sensor Integrated VOC sensor Integrated CO_2 sensor	Integrated temperature sensors Integrated humidity sensor Integrated VOC sensor Integrated CO_2 sensor	Integrated temperature sensors Integrated humidity sensor Integrated VOC sensor Integrated CO_2 sensor

Endura Delta pressure curves

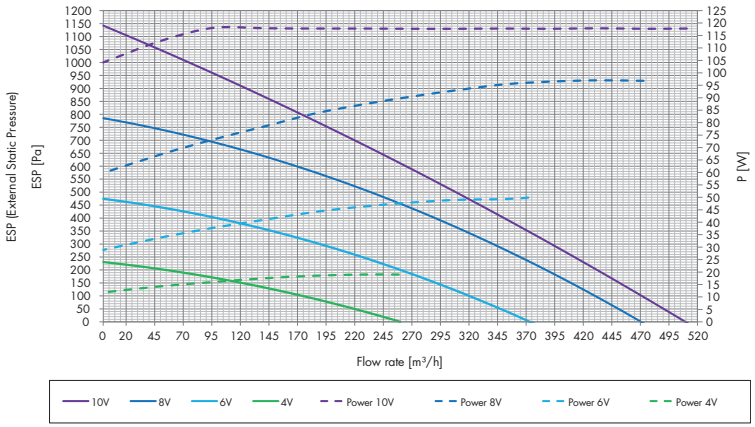
Fan curves for the Endura Delta 330
pressure based on flow rate



Fan curves for the Endura Delta 380
pressure based on flow rate



Fan curves for the Endura Delta 450
pressure based on flow rate



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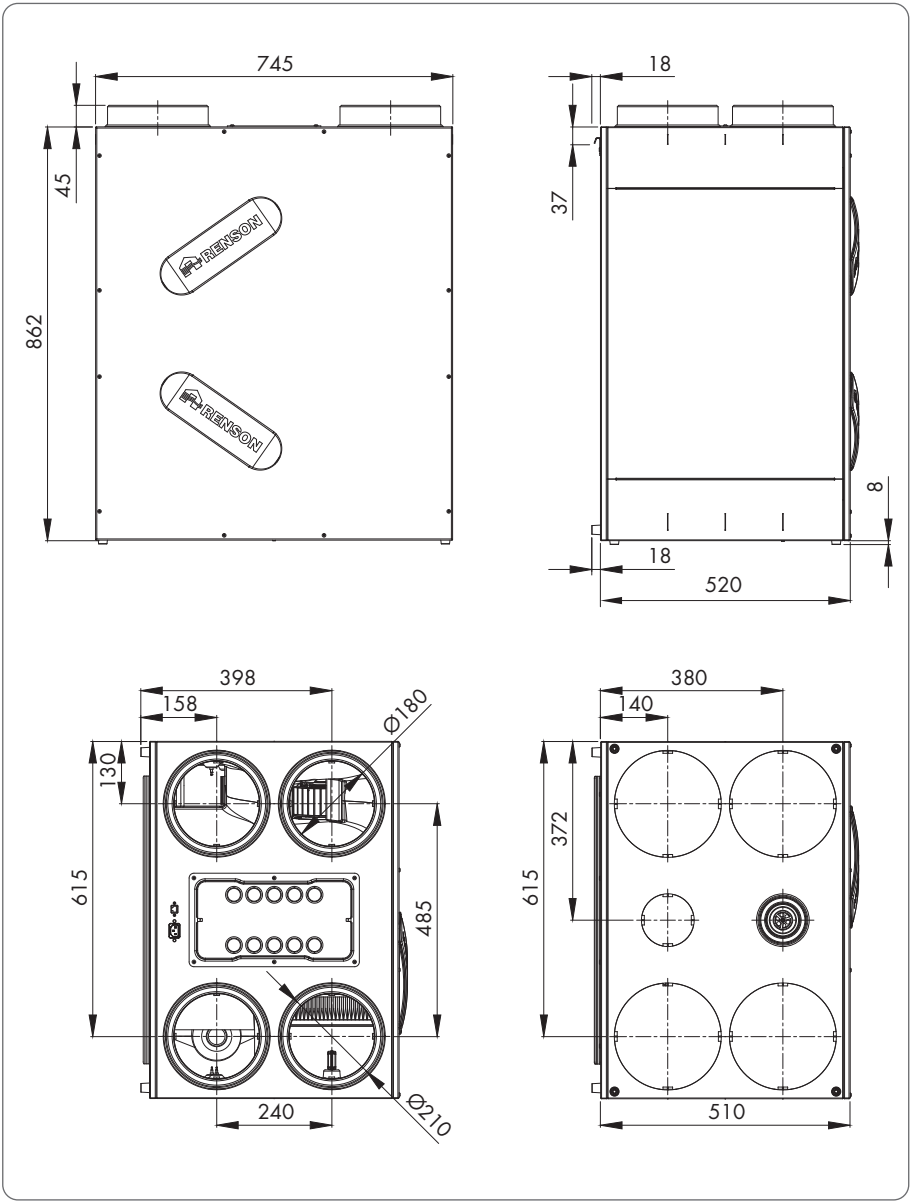
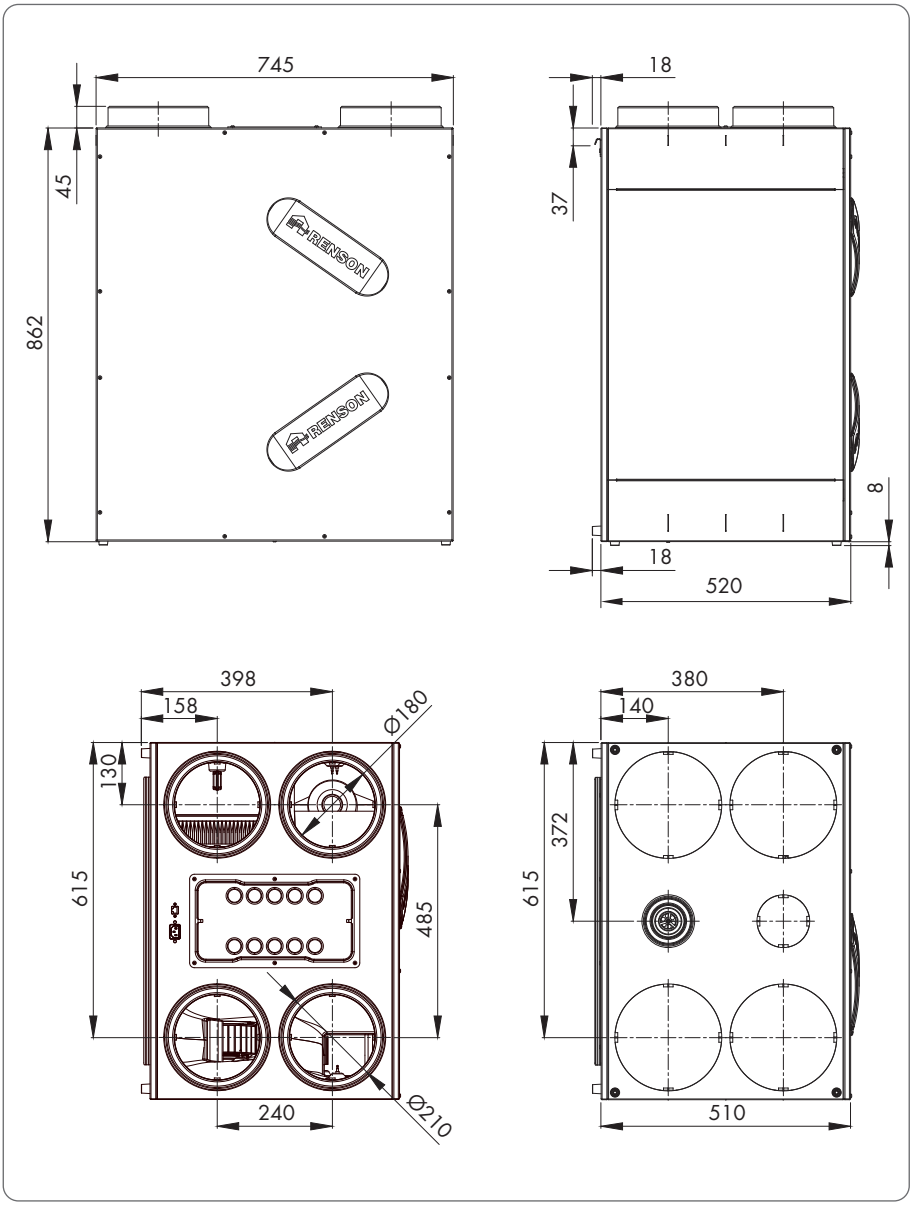
5 • Dimensions

Endura® Delta 330 T4 L (standard)



Endura® Delta 330 T4 R (only possible after conversion)



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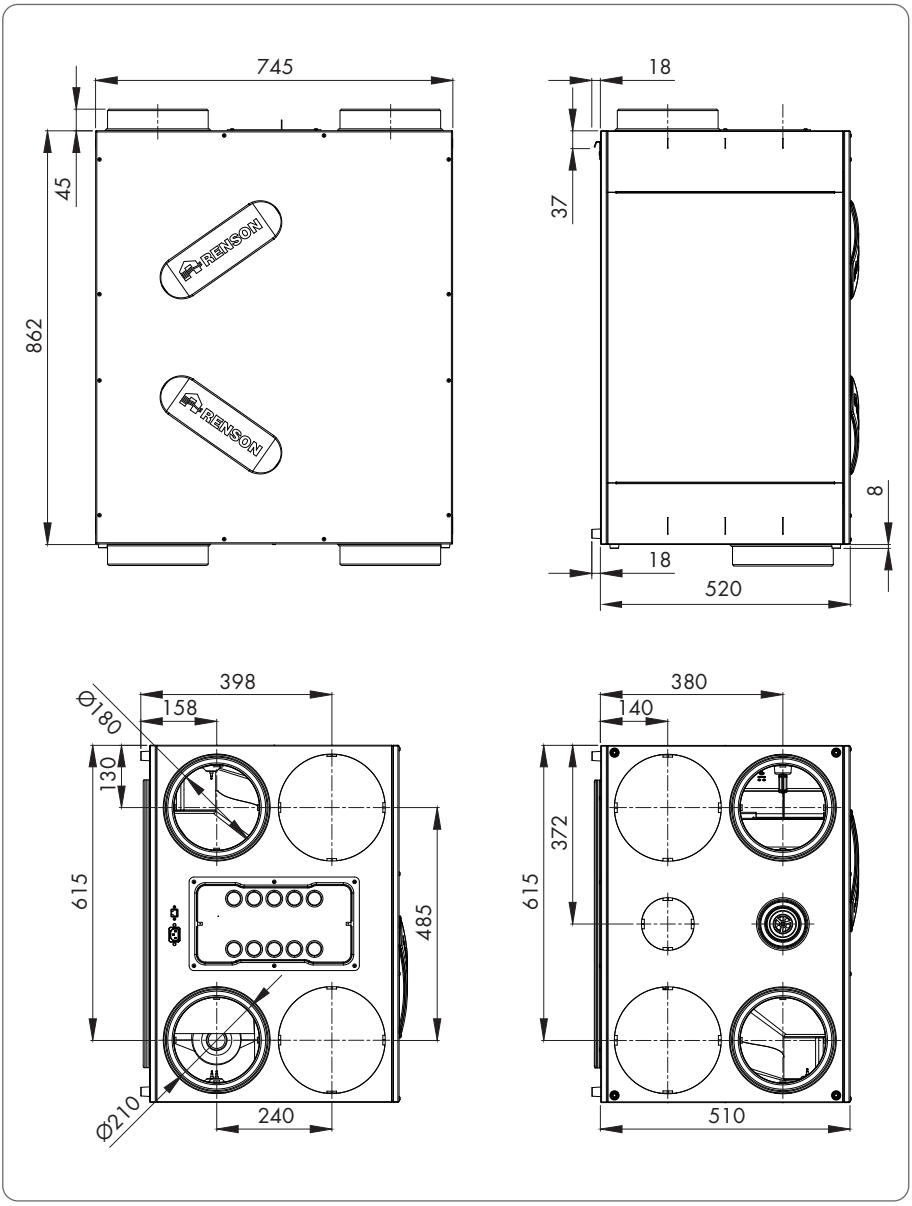
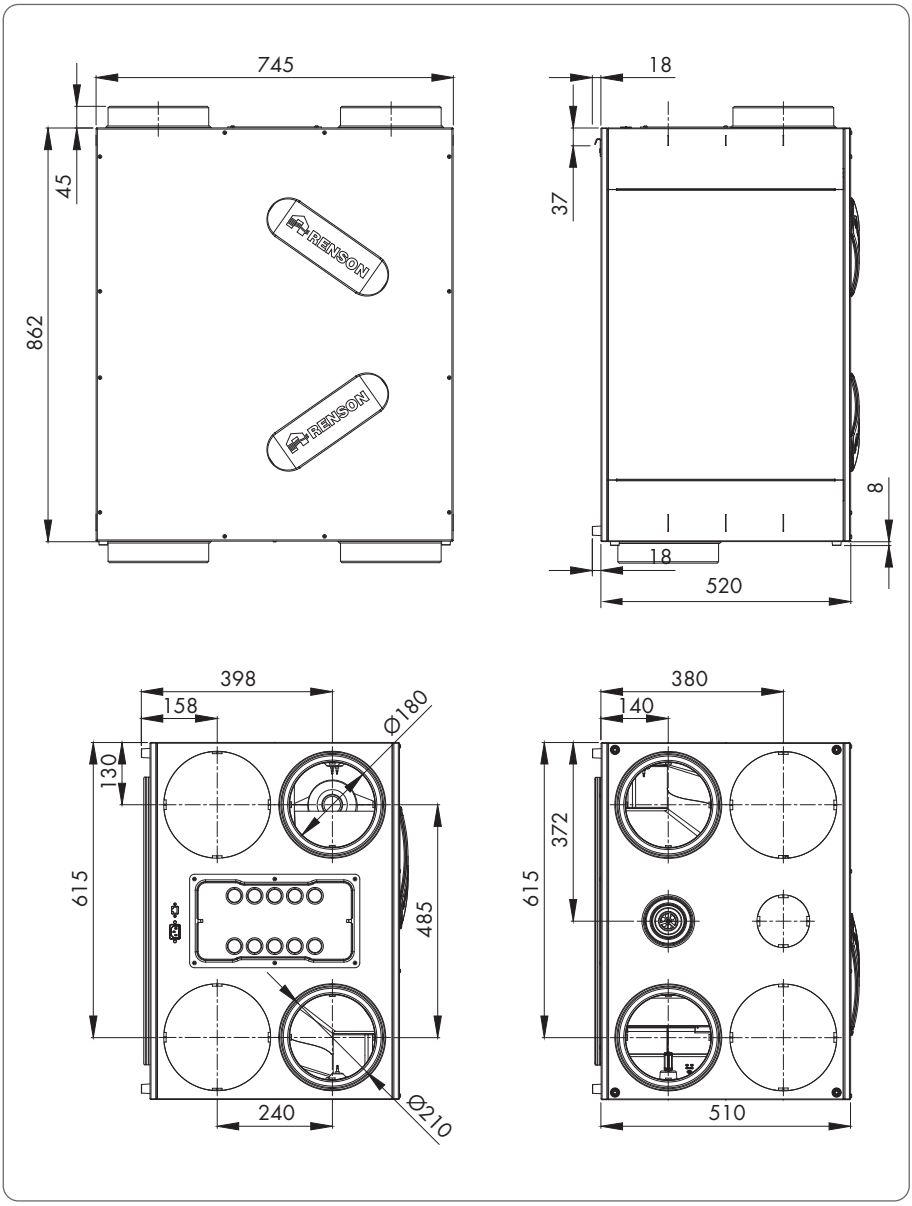
Endura® Delta 330 T2/B2 L (standard)



Endura® Delta 330 T2/B2 R (only possible after conversion)



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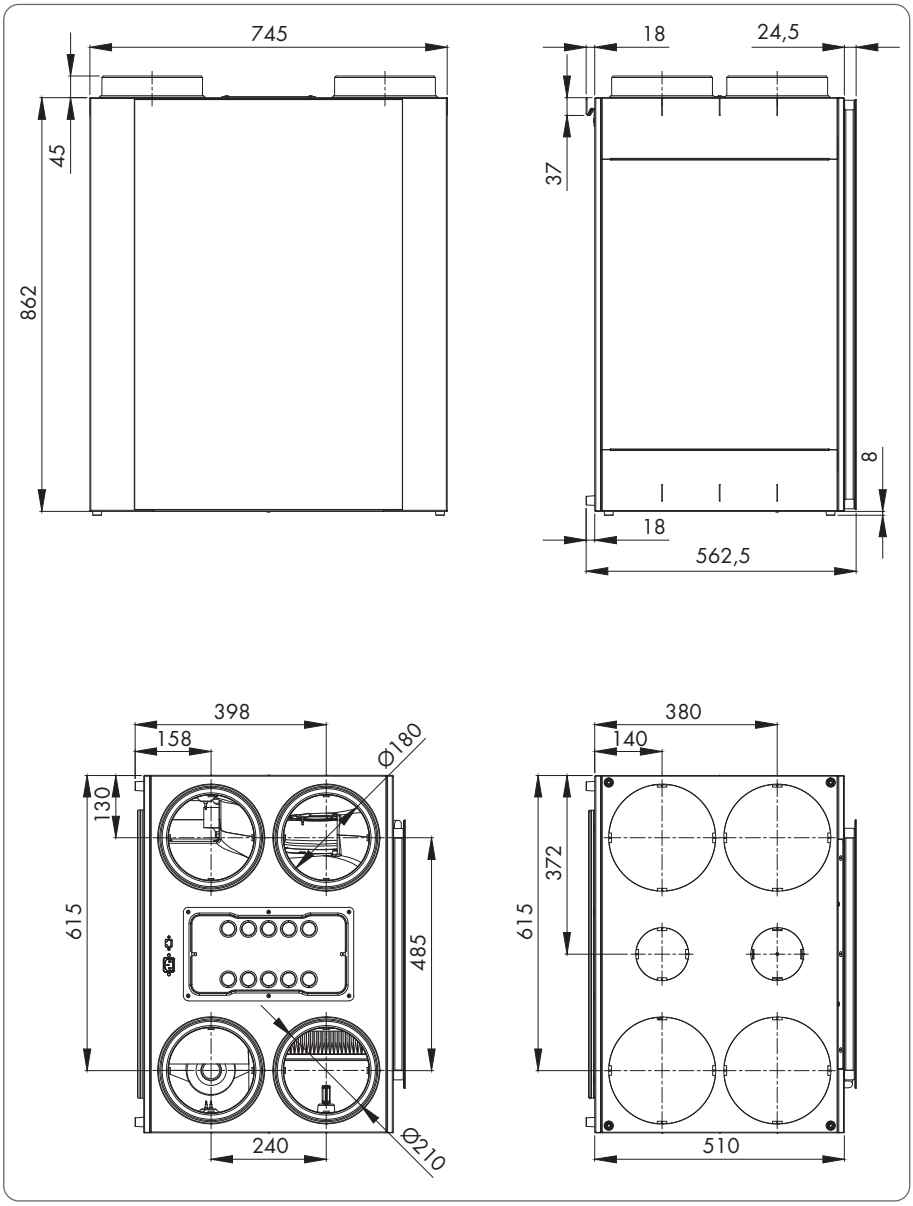
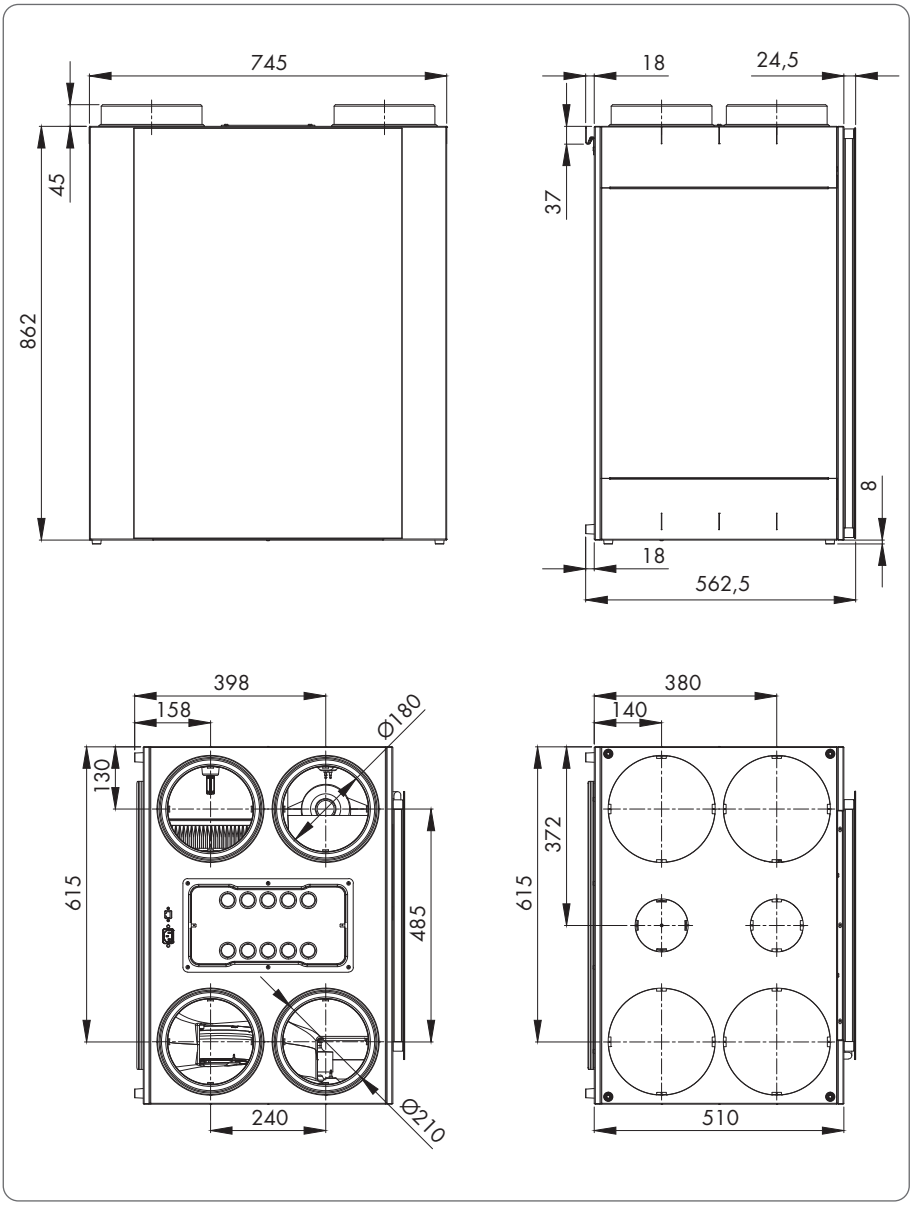
Endura® Delta 380/450 T4 L (standard)



Endura® Delta 380/450 T4 R (only possible after conversion)



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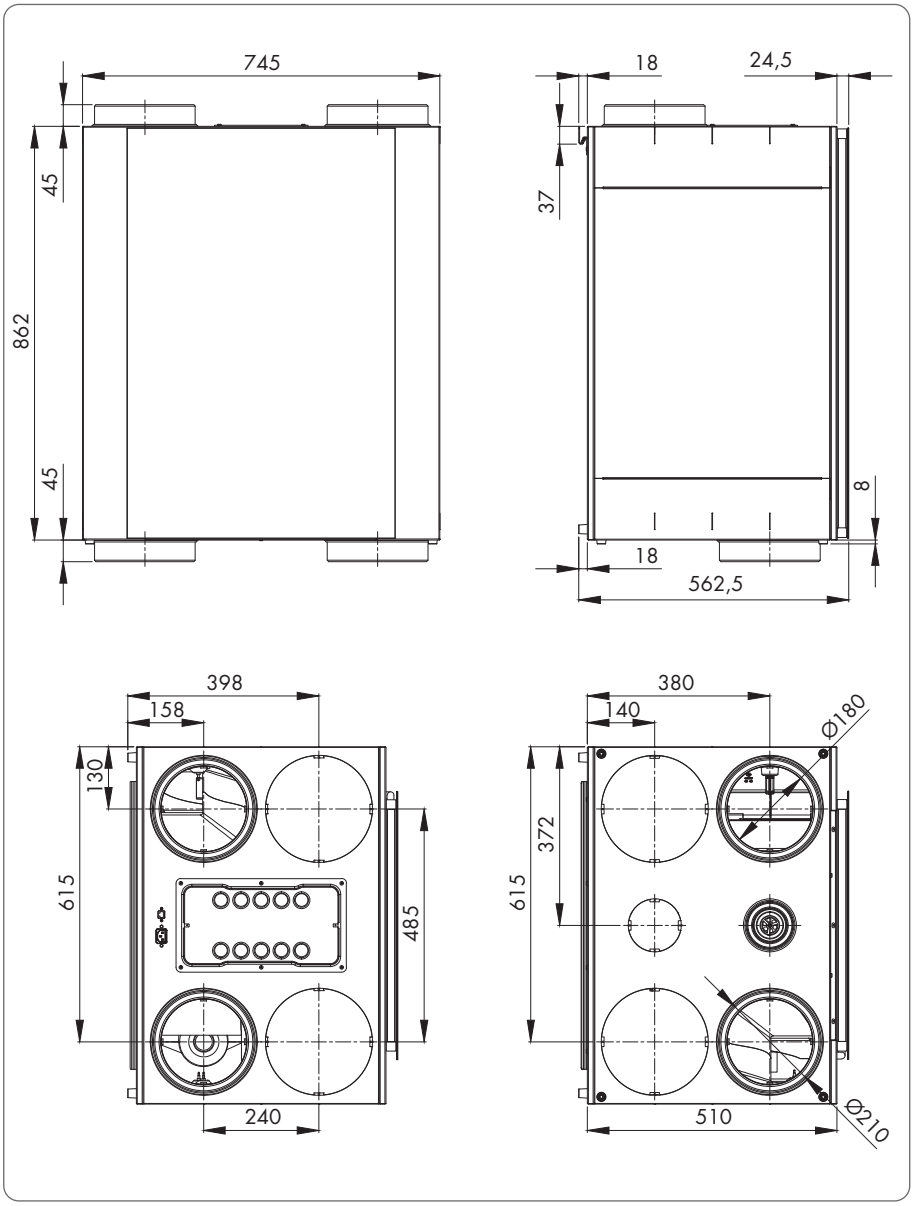
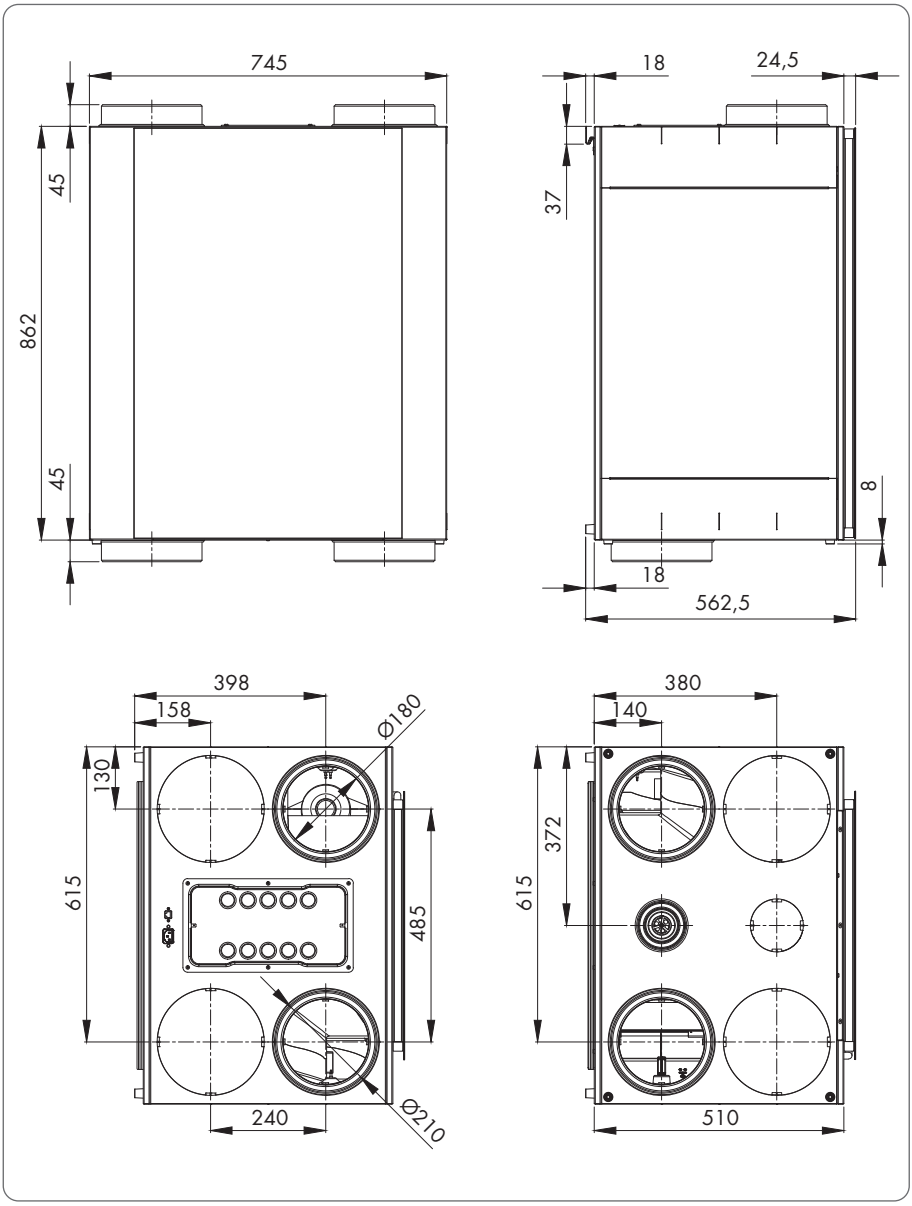
Endura® Delta 380/450 T2/B2 L (standard)



Endura® Delta 380/450 T2/B2 R (only possible after conversion)



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For the installer

6 • Installation

6.1 • General assembly conditions

- Carefully read the safety and installation conditions in Section 3.3.
- Choose a setup space in the technical facilities or elsewhere (in the vicinity of the roof or wall ducts).
  - Position the unit centrally with regard to the ventilation spaces so that the duct lengths can be distributed as homogenously as possible and the duct network is kept to a minimum.
  - Do not place the unit above or inside a bedroom to limit any sound transmission.
- Ensure that there is enough space around the unit to connect it to the ventilation ducts without problems and that allows for inspections and maintenance to be carried out. Avoid obstacles that obstruct access to or removal of the unit.
- The unit must be placed in a frost-free location.
- The condensate discharge must be connected to the home's waste-water disposal system.
- The Endura Delta may not be connected to a cooker exhaust hood or clothes dryer.
- Supply and discharge for the fans must always be towards the outside.
- The dimensions of the required intake ducts are, among others, dependent upon the intended extraction flow rate.
  - When using RENSON® Easyflex air ducts:
    - Air flow rate ≤ 60 m³/h => 1 air duct (at an air speed of 2.5 m/s)
    - Air flow rate > 60 m³/h => 2 air ducts (at an air speed of 2.5 m/s)
  - Air flow rate ≤ 50 m³/h => Ø80 mm or equivalent
  - Air flow rate > 50 m³/h => Ø125 mm or equivalent
    → See also connector length guide values
- No sharp bends in the pipes just in front of the ventilator unit.
- In order to prevent condensate from forming in the ducts, you must use insulated pipes if these pipes are placed outside of the insulating volume of the home.

The placement of the Endura Delta and the related air ducts must be done in such a way that the air ducts can be connected with as few bends as possible. This reduces the resistance across the air ducts, thus avoiding capacity and noise problems.

The following factors are important when correctly determining which Easyflex air ducts are required:

- Intended flow rate
- Distance between the ventilator unit and the extraction/supply point
- Acoustic comfort for the user
- Loss of pressure across the air ducts

In order to guarantee the **acoustic comfort** RENSON® recommends a maximum air speed of **3.0 to 3.5 m/s**.
The table below lists the required number of duct sections, for which the air speed of 3.5 m/s is not exceeded:

Easyflex						
Type of room	**Required flow rate (surface area x 3.6 m³/h)**		**Flexible duct 140 x 60 mm**	**Fixed flattened oval 135 x 55 mm**	**Round Ø125 mm**	**Round Ø80 mm**
Dry room	*min*	*limit*				
living room	75 m³/h	150 m³/h	2	2	2	–
bedroom	25 m³/h	72 m³/h	1 or 2	1 or 2	1 or 2	1
study			1	1	1	1
playroom			1	1	1	1
Wet room	*min*	*limit*				
toilet	25 m³/h	–	1	1	1	1
washroom	50 m³/h	75 m³/h	1	1	1	1
bathroom without toilet	50 m³/h		1	1	1	1
bathroom with toilet	60 m³/h		1	1	1	–
kitchen	75 m³/h	–	1 or 2	1 or 2	1 or 2	–

The Easyflex technical sheet states at which air speeds the required flow rate is achieved for the various types of air ducts.

In order to keep the **loss of pressure** across the ventilation duct to an acceptable level, the guide values below can be used for the maximum connector lengths:
Preferably use round ducts as riser pipes.

Easyflex					
Flow rate	**Flexible duct**	**Round duct Ø80**	**Round duct Ø125**	**# rigid bends 90° (*)**	**Combined length flexible rigid/round (**)**
25 m³/h	-	•	-	4	25 meter
	•	•	-	4	25 meter
50 m³/h	-	•	-	4	15 meter
	•	•	-	4	7 meter
	•	-	•	4	15 meter
	-	-	•	4	25 meter
75 m³/h	•	-	•	4	8 meter flexible + 6 meter round
	• (2 parallel pipes)	-	•	4	15 meter
	-	-	•	4	25 meter
150 m³/h	• (2 parallel pipes)	-	•	2	8 meter
	-	-	•	2	10 meter

(*) – when combining a flexible rigid duct with a round duct, 2 transition pieces of flexible/round must be taken into account
(**) – Total intake duct = combined air duct flexible rigid + rigid
– Bend (aluminium flexible) for ventilation system and for the extraction grille have not been taken into account

– Take a maximum loss in pressure of approx. 150 Pa across the entire ventilation system into account

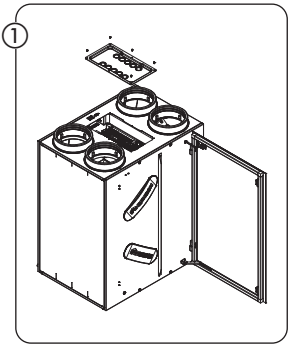
Acoustics

- Certain situations require that acoustic damping materials should be used (bedrooms, open-plan kitchen).
- When the air duct between the supply or extraction point and the ventilator unit is less than 3 metres long, soundproofing (Acoudec) is strongly recommended in order to avoid any excess noise.
- When the air duct between the supply or extraction point and the ventilator unit is less than 1 metre long, soundproofing (Acoudec) is mandatory.
- It is strongly recommended to use soundproofing (Acoudec) when using spiral pipes in order to minimise excess noise.
- Always place the soundproofing as close to the ventilator unit as possible.
- Acoustic damping materials can also be placed behind the extraction grille for additional soundproofing. However, please take into account the fact that the set flow rate must always be achieved.

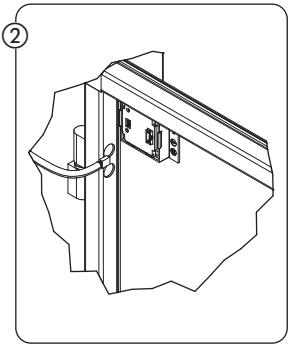
6.2 • Installation

6.2.1 • Conversion from left-hand model to right-hand model

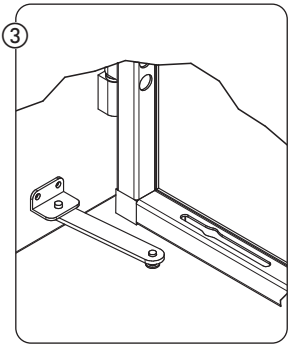
It is possible to convert a standard left-hand model to a right-hand model. On a right-hand model the position of the filters and bypass are on the right-hand side. You can find the instructions to do this conversion here below.

① 

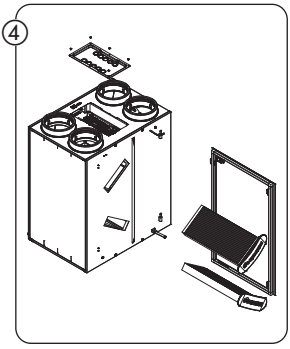
Unscrew the top cover and disconnect the control panel connector from the circuit board.

② 

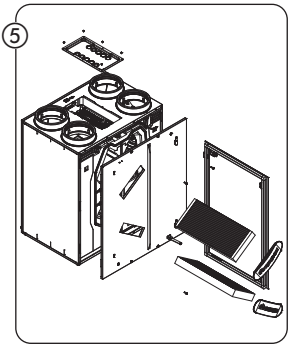
Disconnect the control panel connector from the glass panel.

③ 

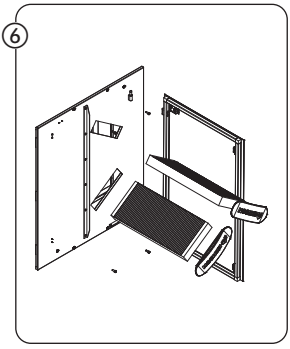
Disconnect the hinge arm from the glass panel and remove the glass panel from the hinges.

④ 

Remove the filter covers and their filters from the unit.

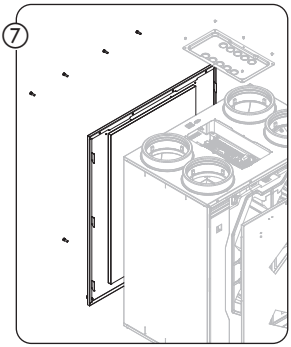
⑤ 

Remove the 4 screws from the front panel and disconnect the front panel by pushing up the panel.

⑥ 

Disassemble the hinges and the hinge arm, turn the front panel 180° and mount the hinges and the hinge arm on the same place (the right-hand side where the filters are).

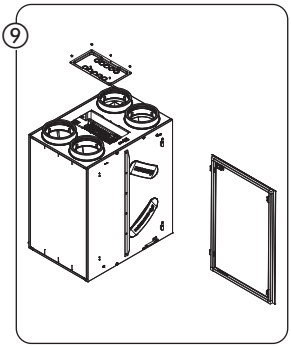
⑦



Unscrew the rear plate (6 screws).

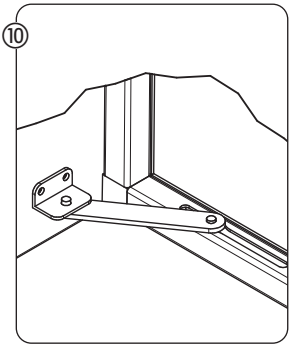
⑧ **Exchange the front and rear plate** and fix them onto the unit. Make sure that the **power supply** and the **network connection** are located **at the front**.

⑨



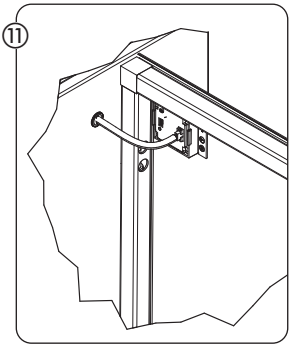
Replace the filters and their covers.

⑩



Replace the glass panel back and connect it with the hinge arm.

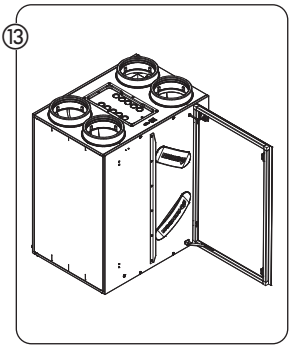
⑪



Connect the control panel connector to the glass panel.

⑫ Connect the control panel connector to the circuit board.

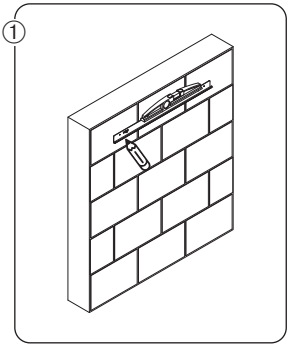
⑬



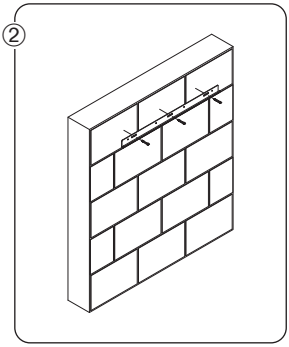
Mount the top cover.

6.2.2 • Placement of the unit

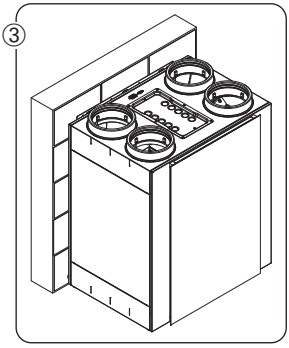
- The unit must be assembled against a wall (minimum mass of 200 kg/m²) using the supplied assembly brackets. The unit must be level.
- A shock absorption material can also be placed between the unit and the assembly wall.

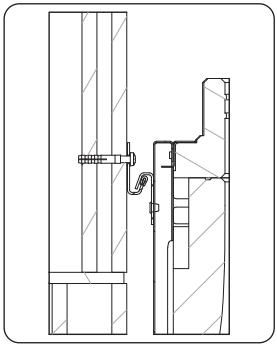
① 

- Use the assembly bracket to mark where the holes must be drilled in the fixation wall.
- Please note that the bracket must be level!

② 

- Use wall plugs and screws (suitable for the type of surface). Weight Endura Delta ±45 kg.

③ 



- Hook the unit into the assembly bracket.
- Check if the unit is level.

6.2.3 • Connecting the ducts

- When designing the air duct system, the combination of air ducts and fans must be designed in such a way that the minimal required design flow rate can be achieved. Determining factors in this regard are: air resistance of the ducts, diameter of the ducts, airtightness of the ducts, placement (number of bends, etc.).
- The main air ducts must be at least 150 mm in diameter and must be connected airtight to the unit so as to avoid unnecessary air resistance.
- The outdoor air supply duct and the indoor air discharge duct (the ducts that directly connect the roof/façade ducts and the Endura Delta) must be insulated to prevent condensate from forming. Isodec or EPP ducts can be used for this.
- The indoor air discharge duct must drain towards the Endura Delta. If condensate forms in the duct (despite the discharge duct being insulated), then the condensate can be drained via the ventilation unit's condensate discharge. You can also opt to install condensate drainage in the air duct.
- Air ducts that are installed in the uninsulated volume of the home must be insulated to prevent condensate from forming.
- We recommend connecting the unit and the supply and discharge ducts to and from the home with the RENSON® Acoudec (min. 1 m) in order to guarantee maximum acoustic comfort.
- Crosstalk between air ducts is avoided by using individual air ducts or separate branches to the fans insofar as is possible.
- When using collapsible ducts, we recommend using the RENSON® Easyflex ducts. These ducts have been specially designed to guarantee high airtightness and low air resistance.
- The maximum air resistance permitted in the duct system is 150 Pa at the maximum flow rate.
- Take the unit's supply and extraction configuration into account. Carefully read the sticker on top of the unit so that you connect the correct duct to the correct point. The position of the supply and discharge ducts could change depending on the unit configuration you selected (see Section 4.1).

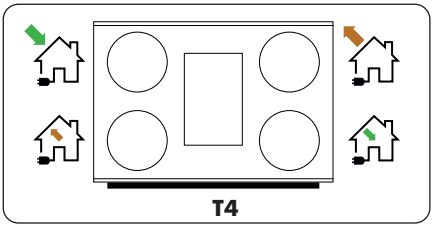

Supply from outside to inside

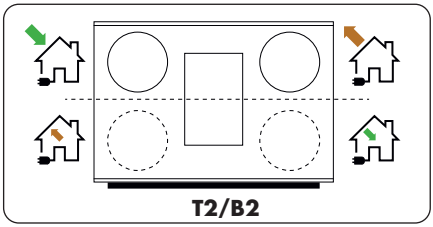

Extraction from inside to outside


Supply of fresh air into the home

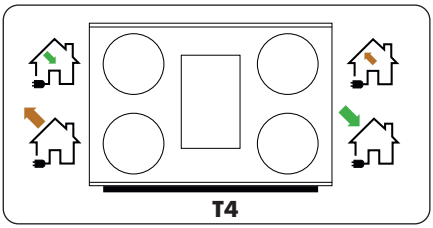

Extraction of stale air from the home

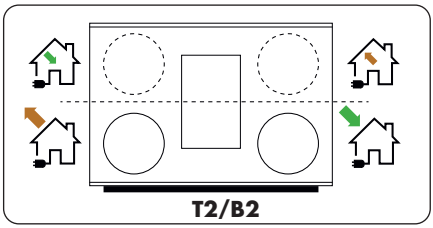
Endura Delta Left (standard)





Endura Delta Right (only possible after conversion)



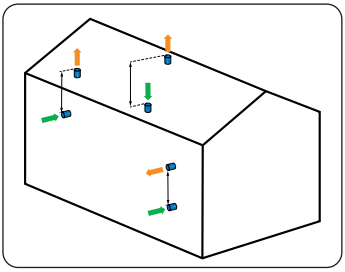


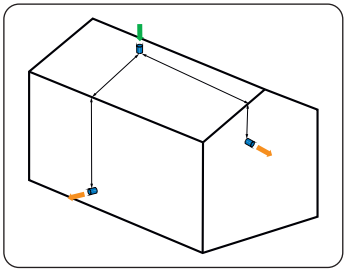
6.2.4 • Guidelines for the supply air and extract air

- The supply and discharge of outdoor/indoor air must be positioned in such a way that it is impossible to recirculate "polluted" air. Therefore, sufficient distance between the outdoor air supply opening and the sewer ventilation, indoor air discharge opening, extractor for the combustion gasses, etc. must be maintained.

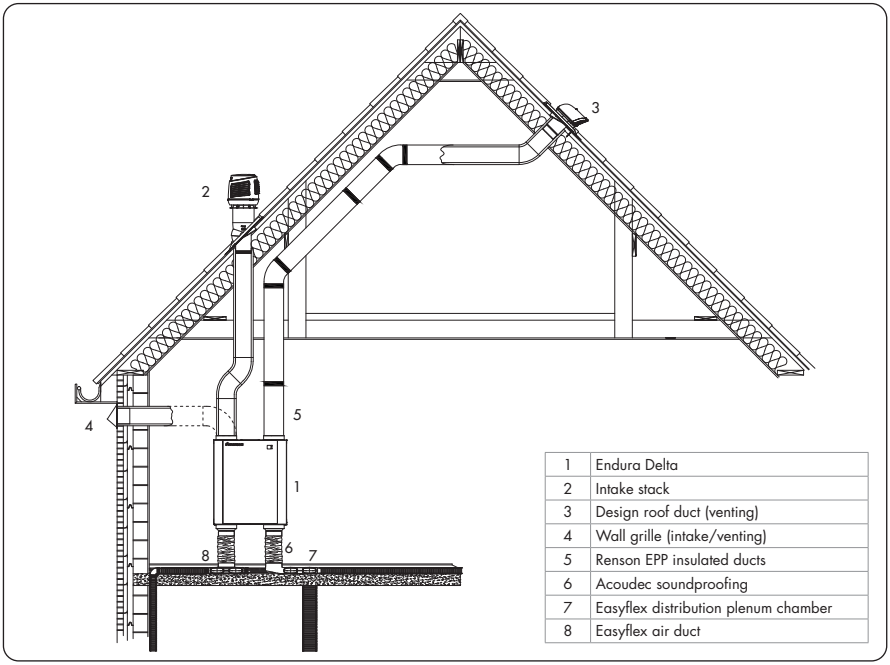
According to the **Ventilation technical information (TI)** - practical guidelines, the following recommendations will restrict the risk of recirculation:

- Respect a difference in height of at least 2 m between the supply and discharge. The supply must always be lower than the discharge. If this difference in height is not possible, then there must be a minimum of 10 m between the supply and discharge.



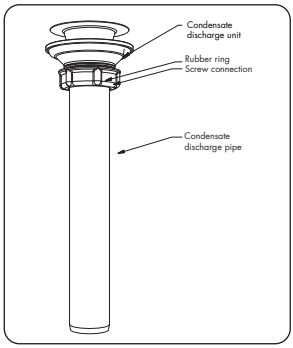


- The direction of the wind (e.g. impact on the emissions from a wood stove) can be taken into account when positioning the supply with respect to the discharge. In Belgium, the dominant direction of the wind is from the southwest, and the supply openings are therefore always preferably placed on the southern to western sides with respect to the various discharge openings.
- The air supply point is best placed as far as possible from other sources of pollution, such as:
  – Ventilation for waste water and fuel tanks;
  – Landscaping, animals;
  – Waste disposal area.
- You can also make a detailed calculation of the dilution factors described in NBN EN 13779 or in the STS-P73-1.
- To protect the air supply from pollution, this must be placed at least 0.7 m above ground level (with respect to the level or flat roof) and at least 0.3 m with respect to the position of the roof ducts for roofs with an incline ≤ 30°.
- The air supply opening must be easily accessible for cleaning when necessary. After all, a reduction in the feedthrough surface can have a major impact on the operation of the entire system.
- We advise against placing an air supply or discharge near a window or patio for acoustic reasons.
- Be sure to take the impact on the duct network and the related losses in pressure into account when determining the positioning of the air supply and discharge!
- In an ideal construction situation, the supply air is pulled from a location just under the roof's gutter or overhang on the shadowed side of the home. The extracted air can be discharged via a roof duct or open ventilation stack (difference of 2 m in height between the supply and discharge).

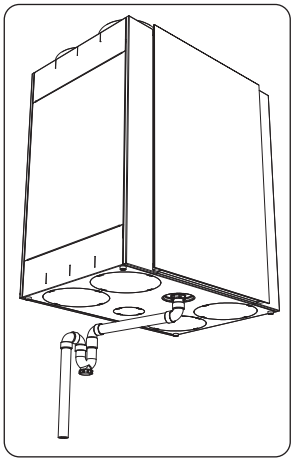


1	Endura Delta
2	Intake stack
3	Design roof duct (venting)
4	Wall grille (intake/venting)
5	Renson EPP insulated ducts
6	Acoudec soundproofing
7	Easyflex distribution plenum chamber
8	Easyflex air duct

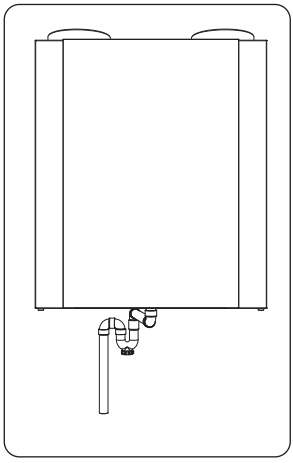
6.2.5 • Connecting the condensate discharge



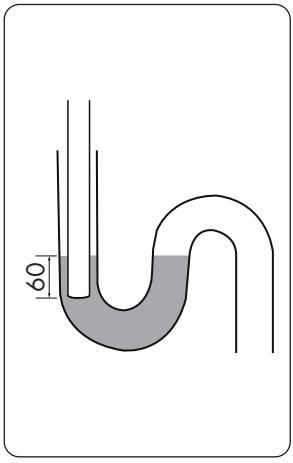
- The ventilation unit is always supplied with a condensate discharge Ø32 mm (external diameter)
- A connective duct is also supplied in a recess in the EPS block on which the unit is supplied.



- Place the rubber ring at the top of this pipe and screw it tight to the condensate discharge on the unit.



- The condensate discharge must be connected to the internal sewerage using a permanent pipe or hose via a water seal (siphon).



! The water seal must be filled with water when it is installed (keeping residual odours to a minimum).

! The end of the pipe or hose must discharge under the water low enough (min. 60 mm) to prevent the unit from taking in air leaked via the condensate discharge.

6.2.6 • Positioning the valves

- Take the following practical issues into account when positioning the valves:
  - The supply valves must be installed in dry rooms. Discharge valves must be installed in wet rooms.
  - RENSON® recommends using valves with a diameter of 125 mm everywhere.
  - The distance between the supply valves and the discharge valves must be as large as possible. This is to guarantee the optimum distribution of fresh air throughout your home. For example, it is important not to have the supply point for the living room too close to the extraction point for the open kitchen.
  - Also take the layout of your home into account when determining the positions of the valves. For example, it is a good idea not to place a supply valve right above your sofa. This is to avoid possible draughts on people.
  - In order to avoid any flow noise at the valve, an additional soundproofing foam can be placed behind the valve. This can only be done if the valve diameter of 125 mm is respected. The use of acoustic foam reduces the diameter of the duct.

6.2.7 • Installing the Master TouchDisplay and air quality sensors

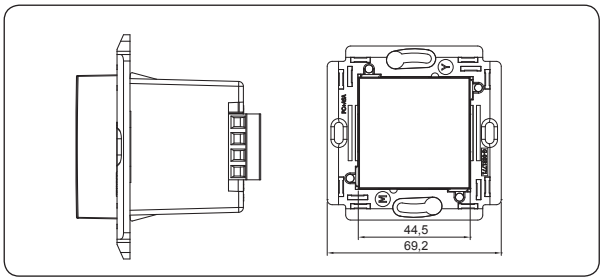
A TouchDisplay is already integrated into the unit as standard (only for types 380 and 450). You can set and control the unit using this. It is highly advisable to control and configure the unit using the Endura Delta app for smartphones and tablets. The app can be downloaded for free from the App Store (Apple iOS), Google Play Store (Android) or Windows Store (Windows).

However, you can opt to install an external Master TouchDisplay (Main Controller). This Master TouchDisplay is equipped with a CO_2 sensor. It is best to place this in a room where you want to be able to register the CO_2 levels and, if necessary, allow the ventilation flow rate to respond to this.

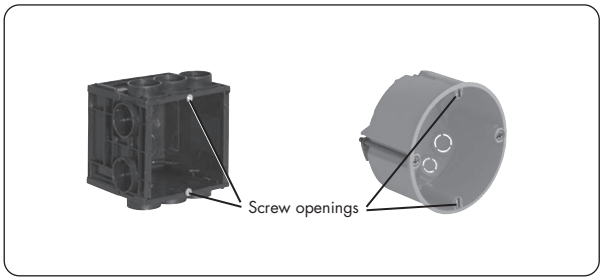
The Master TouchDisplay is connected to the main printed circuit board using a cable (see Section 7.1.1 for the electrical connection diagram) (specs, max length). The Master TouchDisplay is powered by the unit, so it does not have to be connected to the home's electricity grid.

You can link multiple air quality sensors (Sensor Controller) to the Master TouchDisplay. These air quality sensors communicate wirelessly with the Master TouchDisplay and must be connected to the home's electricity grid (230 V).

Installation

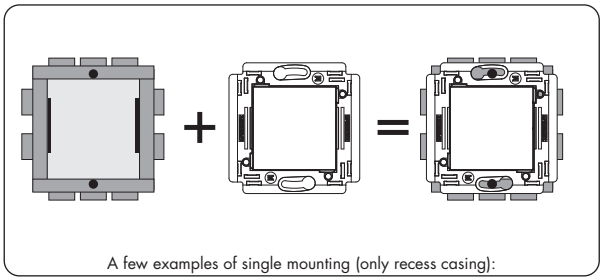


Preferably, the TouchDisplay and/or air quality sensor must be mounted in a recessed box. The recessed box must have a sufficient recess depth.



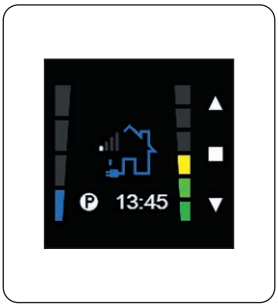
Ensure that the recessed box is equipped with two screw openings in order to screw down the TouchDisplay and/or air quality sensor.

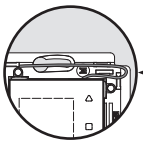
A few examples of recessed boxes:



A few examples of single mounting (only recess casing):

Lastly, click in the cover for the TouchDisplay and/or air quality sensor. Find more information about the relevant cover from a specialist retailer (brands that offer the appropriate sizes include Niko).



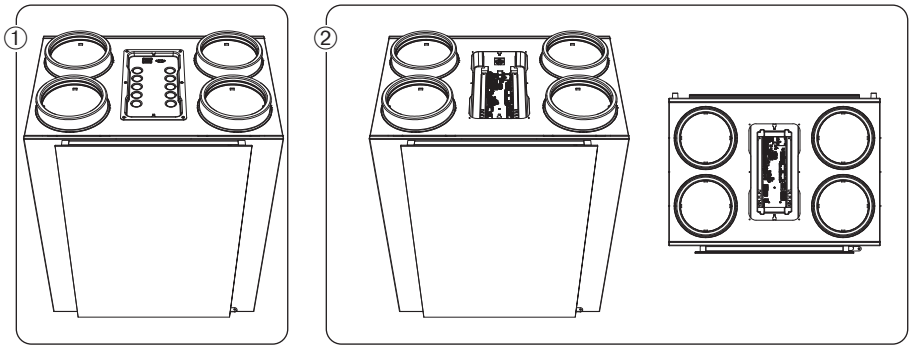


Position the wire antenna according to the figure. Ensure that the clip openings for the cover are not obstructed.

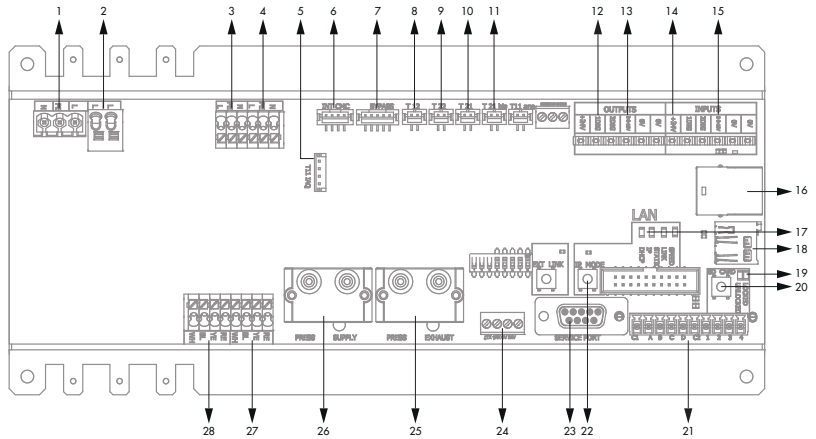
Note:
- Place the TouchDisplay in an interference-free environment so that the RF signal can be transmitted/received well.
- The TouchDisplay can only be used in combination with the RENSON® Endura Delta.

7 • Connection diagram Endura Delta

7.1 • Connection printed circuit board Endura Delta



- Unscrew the cover on top of the Endura Delta (6 screws).
- You can now access the connection printed circuit board.



1	Power 230V
2	Preheater connection
3	Supply fan power
4	Extraction fan power
5	T11 extract air temperature and relative humidity + VOC + CO_2 sensor
6	TouchDisplay front panel connection
7	Bypass connection
8	T12 extract air temperature sensor
9	T22 supply air temperature sensor

10	T21 outdoor air temperature sensor
11	T21bis outdoor air temperature sensor
12	Output contact 24 V DC
13	Output contact 0-10 V
14	Input contact 24 V DC
15	Input contact 0-10V
16	RJ45 connector (Ethernet link)
17	Control ethernet connection + STATIC/DHCP programmable with a push-button
18	Micro SD card holder

19	ControlLED SD card
20	Button to lock the SD card
21	10-pole 4-position switch connection
22	IP address button
23	Service port
24	Master TouchDisplay connection
25	Exhaust pressure lines
26	Supply pressure lines
27	Extraction fan control
28	Supply fan control

The majority of the connections to the Endura Delta have been pre-assembled. However, you can choose to connect a number of extra functions. Below are the options that can be connected afterwards:

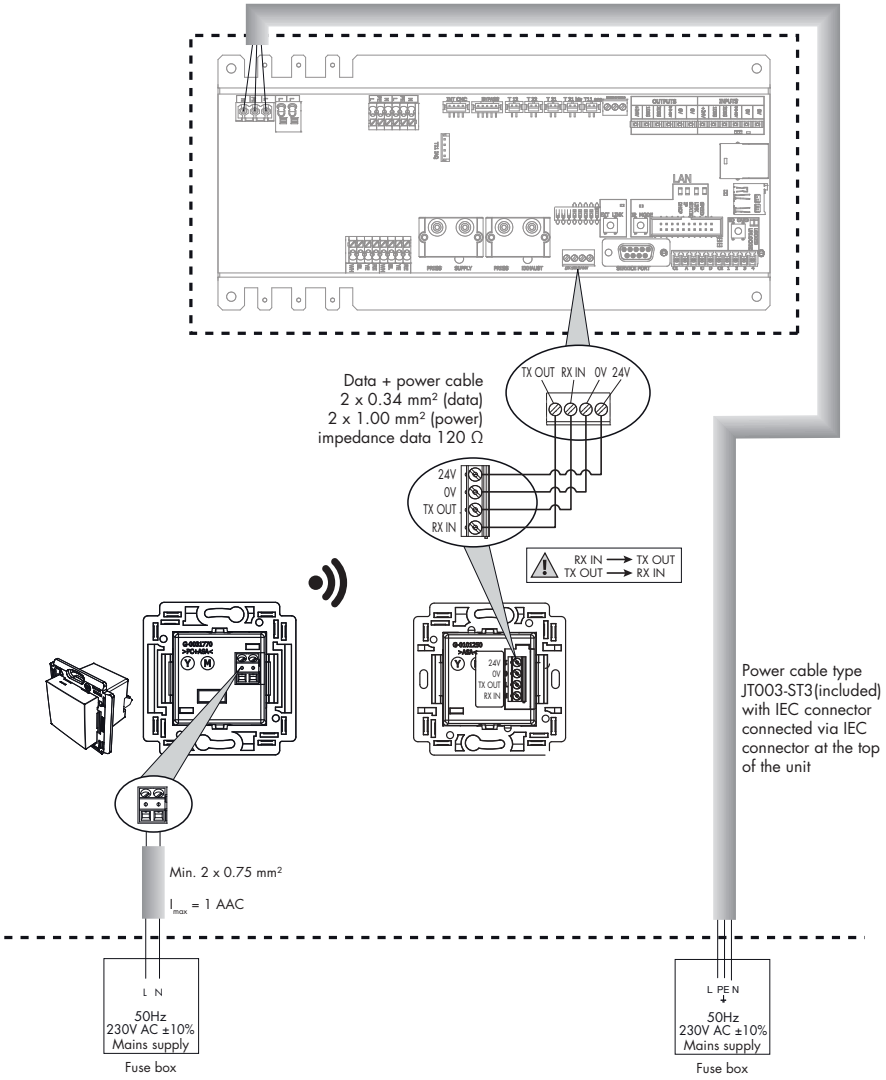
7.1.1 • Connecting the Master TouchDisplay (no. 24 in the picture)

A TouchDisplay is already integrated into the unit as standard (only for types 380 and 450). You can set and control the unit using this. It is highly advisable to control and configure the unit using the RENSON® Ventilation app for smartphones and tablets. The app can be downloaded for free from the App Store (Apple iOS), Google Play Store (Android) or Windows Store (Windows).

However, you can opt to install an external Master TouchDisplay. This Master TouchDisplay is equipped with a CO_2 sensor. It is best to place this in a room where you want to be able to register the CO_2 levels and, if necessary, allow the ventilation flow rate to respond to this.

The Master TouchDisplay is connected to the main printed circuit board (24) using a cable (max. 30 m, section of 4 x 0.22 mm^2 up to 4 x 1 mm^2). The Master TouchDisplay is powered by the unit, so it does not have to be connected to the home's electricity grid.

You can link the air quality sensors to the Master TouchDisplay. These sensors communicate wirelessly with the Master TouchDisplay. The sensors register the air quality of the room in which they have been placed and send the flow rate to the Endura Delta. See the diagram below.



See Section 8.2.1.2 on how to link the air quality sensors to the Master TouchDisplay.

7.1.2 • Input and Output contacts (nos. 12-15 in the picture)

The Endura Delta is always equipped with 2 digital and 1 analogue input and output contact. These contacts can be used, e.g. to activate the Fireplace function, indicate a filter message on an external switch, etc., via an external contact.

See Section 8.1.1.5 or Section 8.2.3.1 for a full description of the functions and how to activate these.

7.1.2.1 • Outputs

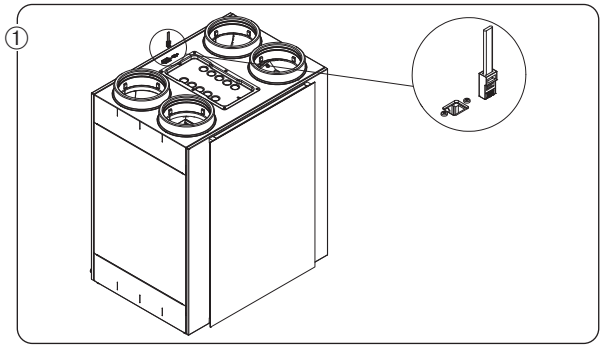
OUTPUTS					
+ 24V	1. DIG	2. DIG	3. 0-10V	OV	OV

7.1.2.2 • Inputs

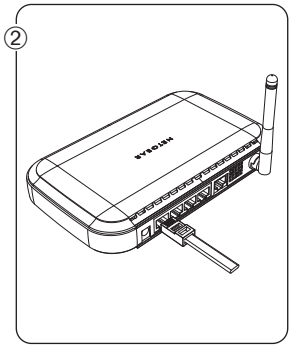
INPUTS					
+ 24V	1. DIG	2. DIG	3. 0-10V	OV	OV

7.1.3 • RJ45 connector

In order to control and configure the unit via a smartphone or table, the unit must be connected to your modem using a category 5/5a/6/6a Ethernet cable.



- Connect the Ethernet cable to the port on the Endura Delta.



- Connect the other end to an available LAN port on your modem. NOT THE INTERNET WAN PORT.

See Section 8.1.1.3 to add the unit to your home network and continue to configure it.

7.2 • Connecting to the mains voltage

Connect the Endura Delta to the mains voltage using power cable type JT003-ST3 (included).

PLEASE NOTE:
The ventilation system must continuously operate, i.e. the Endura Delta may never be turned off (legal requirement according to NBN D50-001, Chapter 4.2 System D).

8 • Programming the ventilation system

There are two ways to program the unit:

- Using the Endura Delta app (smartphone/tablet): recommended installation
  - Using the app to program the unit provides you with more options than using the TouchDisplay.
    - ◇ Programming flow rates
    - ◇ Register your unit
    - ◇ Generate measurement report
    - ◇ Save configuration parameters
    - ◇ Confirmation email for registration with all unit data

- Via the integrated TouchDisplay or an external Main Controller
  - The TouchDisplay has fewer functions than the Endura Delta app
    - ◇ Programming flow rates

8.1 • Programming using the Endura® Delta app

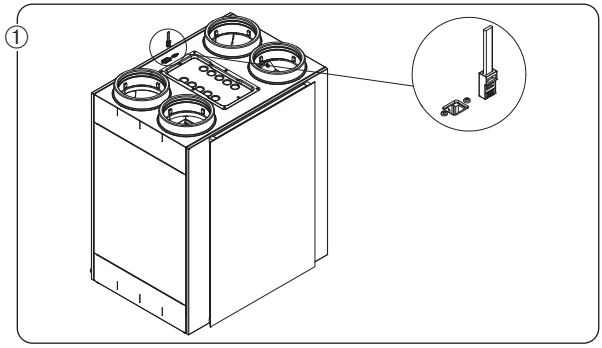
You can control the Endura Delta functions using the Renson Ventilation app. This mobile platform allows you to control the ventilation unit using your smartphone or tablet and view the generated data.

8.1.1 • Opening + configuring the app & unit

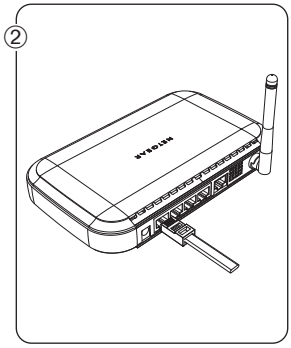
To use the Endura Delta app, you must first carry out a few step to link the Endura Delta to your home network.

8.1.1.1 • Connecting the Endura® Delta to a Wi-Fi network

Connect the router to the Endura Delta using a category 5 Ethernet cable (RJ45). If there is no Wi-Fi connection available in the home, the installer must use his/her own router, which can then be removed after configuring the Endura Delta.



- Connect the Ethernet cable to the port on the Endura Delta.



- Connect the other end to an available LAN port on your modem. NOT THE INTERNET WAN PORT.

Plug the router in and turn it on. Check that the Endura Delta is also connected to the mains supply and is turned on. You can now continue with the configuration.

8.1.1.2 • Installing the app

The Endura Delta app is available for the major mobile platforms (iOS, Android, Windows) allowing you to have immediate access to your personalised Renson controls using any modern smartphone/tablet.

You can download the Endura Delta app from the app store for your operating system.
- Android: Play Store (starting with Android 4)
- iOS: App Store (starting with iOS 7)
- Windows: Windows Store (starting with Windows Mobile 8)

ANDROID-APP OP Google play

Verkrijgbaar in de App Store

Windows Phone

8.1.1.3 • Configuring the Wi-Fi

The Endura Delta must be connected to the Wi-Fi network in order to operate/configure the Endura Delta using the Renson Ventilation app.

If there is no Wi-Fi connection available on-site, the installer must use his/her own router to start up the Endura Delta. This router can be removed after configuring the ventilation unit. The end customer must add the Endura Delta to his/her own home network himself/herself upon putting it into operation.

Connect the router and go to "Settings" on your smartphone/tablet. In the Wi-Fi connection menu here, find the LAN connection for your router and activate this. Your smartphone/tablet is now successfully connected to the router.

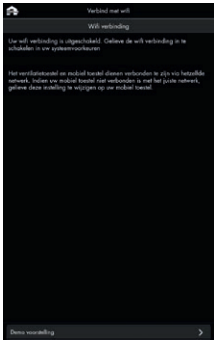
8.1.1.4 • Opening the app

After your smartphone/tablet is connected to the network (LAN or Wi-Fi), you can open the Renson Endura Delta Ventilation app. The following screen opens: Adding/changing devices.

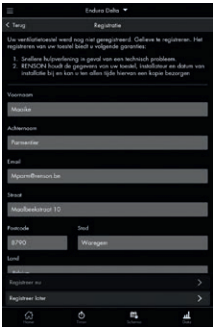
Your smartphone looks for RENSON® units that are in the network.

If the Endura Delta is turned on and connected to the network correctly, then this appears in this menu.
Tick the Endura Delta and then tap "Continue" to add the unit to the network.

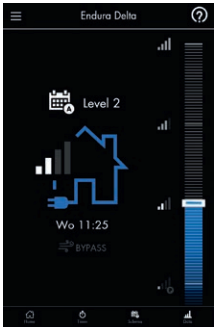
If the unit is not found, tap "Search" again. Ensure that your smartphone is connected to the correct network.



If you are outside of the network's range, the screen on the left appears. Go somewhere where you are within the network's range and retry the steps above.



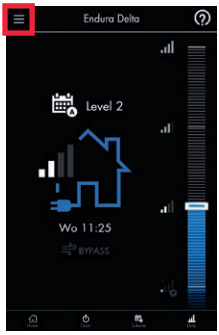
Once the Endura Delta has been successfully added to the network, the registration screen opens. As the installer, you may not carry out this registration, so tap “register later”.



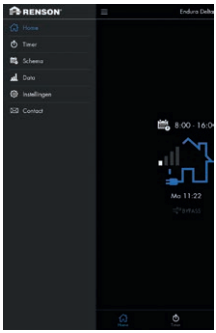
The main screen opens.

8.1.1.5 • Installer settings

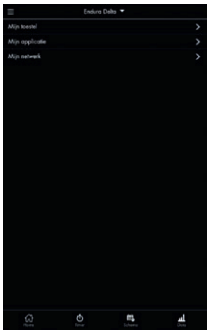
In order to gain access to the installer settings, please follow the steps below:



Tap the “Settings” button in the basic screen.



You can now tap the “Settings” tab to gain access to the configuration menu.



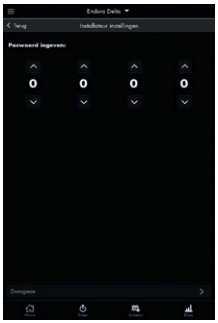
You can choose between “My device”, “My app”, and “My network” in the screen above.

My device

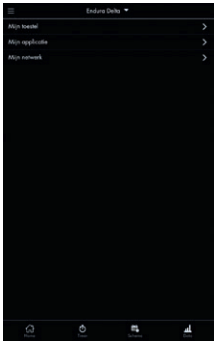
You can change settings for the ventilation unit with this menu:

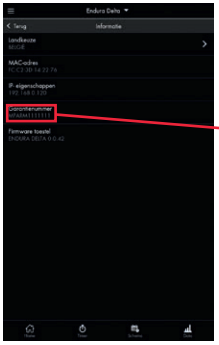
View information on the unit, filter settings, status, Breeze, day/night settings, indoor air pollution settings, clock synchronisation, rename unit, view error log, start C-mode (design position), restart unit, load/save configuration, edit firmware, change installer settings.

Most of the settings in this menu are for the end user. As an installer, you need the *"Installer settings"*. Access to this menu is only granted after entering a password. The password is the last 4 digits in the unit warranty number.



You can find the unit warranty number on the sticker on the unit itself, or in the app under: My device > Information > Warranty number.



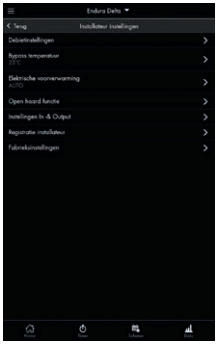


Warranty number
00000000000

The last 4 digits are the password to access the installer settings.

RENSON®
Creating healthy spaces

Installer settings

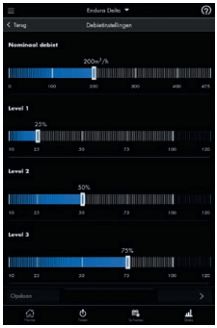


It is important that you, as the installer, configure the flow rates of the ventilation system using this menu in order to guarantee the correct operation of the unit.

Moreover, it is advisable to then carry out the installer's registration of the unit. A measurement report has been integrated into the registration form, so that you can immediately send a copy of this to the principal and EPB reporter.

a) Flow rate settings

The nominal flow rate for the home and the intensity of the various ventilation levels can be set using this menu.



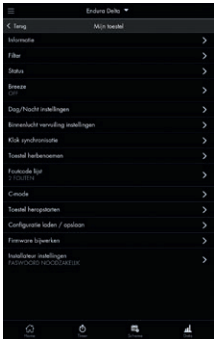
The nominal flow rate must equal the design flow rate of the home. Thanks to the constant flow operation of the Endura Delta, the system always operates in a balanced manner and guarantees the flow rate.

The other levels are defined as a percentage of this nominal flow rate. By default, the levels are programmed as follows:
Level 1 = 25%
Level 2 = 50%
Level 3 = 75%
Level 4 = 100%

- Select the desired flow rate using the slider.
- Tap "Save" if you do not wish to make any further changes.

E.g.: the design flow rate for a home is 250 m³/h, so the nominal flow rate should be set at 250 m³/h.
Level 1 = 25% = 62.5 m³/h
Level 2 = 50% = 125 m³/h
Level 3 = 75% = 187.5 m³/h
Level 4 = 100% = 250m³/h

Once the flow rates have been set, the system must be put into C-mode to check the flow rates and fine-tune the valves.



Go back to the “My device” menu and open the “C-mode” menu.

If you now tap “Activate”, then the C-mode (design position) is activated for 30 minutes.

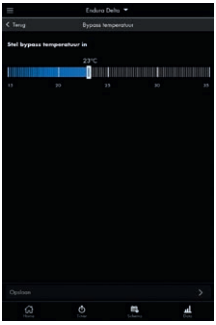
During this interval, the Endura Delta ventilates at the nominal flow rate. You now have 30 minutes to program the flow rate for each room separately with the programmable valves and to check the flow rates.

If 30 minutes was not enough time in which to finalise the programming and measurements, then you can reactivate the C-mode.

As long as the C-mode is active, the following basic screen appears. There is a timer pictured above the house that shows you how long the C-mode will remain active.

If you want to stop the C-mode early, then tap the X next to the timer. You will automatically return to the normal programming control.

b) Bypass temperature



You can change the Bypass temperature using this menu. This is set to 23°C (indoor temperature) by default. The Bypass is activated when the following conditions have been met:

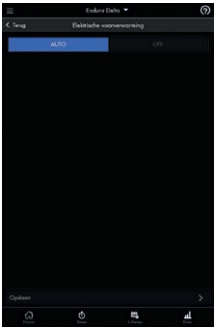
- Outdoor temperature > set Bypass temperature - 6°C
- Outdoor temperature < actual indoor temperature
- Indoor temperature > set Bypass temperature (23°C)

Follow these steps to change the Bypass temperature.

– Use the slider to select the desired temperature and confirm this by tapping “Save”.

We advise against changing this setting. You should only change the temperature setting if the client wants this due to specific comfort requirements.

c) Electric preheater



You can turn the electric preheater on or off using this menu.
Attention! Not all Endura Delta units are equipped with a preheater as standard. If you want this element, you must order the correct type of unit.

This menu is on **AUTO** by default. If the preheater is present, this is automatically activated. If you want to deactivate the element, select **OFF**.

If there is no preheater, then only the basic frost protection (unbalanced) is active. This cannot be turned off.

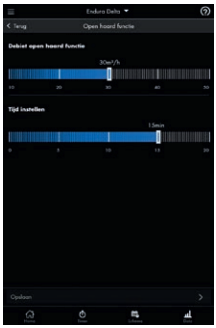
Turning off the preheater can accelerate the freezing of the heat exchanger when the conditions are right for frost to form. We advise against turning this function off if the unit is equipped with a preheater.

d) Fireplace function

This menu lets you configure the Fireplace function. The Fireplace function can only be activated using an external switch that can be connected to the 24 V DC input contact on the main board (see 7.1).

When turning on this function, the home is temporarily (interval to be set) over-pressurised, so that the fireplace burns easier and more oxygen is temporarily supplied.

Example: you set a differential flow rate of 50 m³/h. The unit operates balanced at a level of 200 m³/h supply and discharge. Upon activating the Fireplace function, the supply increases to 225 m³/h and the discharge decreases to 175 m³/h, so that the supply gains a difference of 50 m³/h. The total flow rate of the home remains unchanged.



Fireplace function flow rate

- Use the slider to select the desired "unbalanced" flow rate for the Fireplace function.
- Tap "Save" if you do not wish to make any further changes.

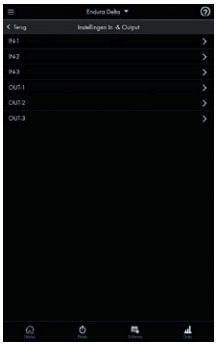
Setting the time

- Use the slider to select the desired time that the Fireplace function must remain active.
- Tap "Save" if you do not wish to make any further changes.

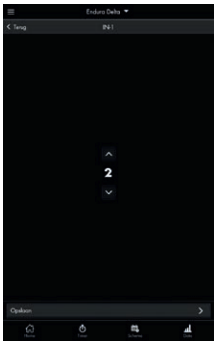
The Fireplace function cannot be activated using the Endura Delta app!
This function can only be activated using an externally connected switch.

e) Setting input and output

You can determine the functions for the set input and output contacts using this menu. These functions are listed below.



Select the desired contact that you would like to configure.



Change the function according to the table below and then tap "Save". The function is active if the input/ output contact is externally controlled.

Input 1 digital open contact	Position 0	Turn off supply and discharge (fire safety)
	Position 1	Turn off discharge
	Position 2	Turn off supply (unit works as a C system)
	Position 3	Start Fireplace function
	Position 4	Reset filter
Input 2 digital open contact	Position 0	Turn off supply and discharge (fire safety)
	Position 1	Turn off discharge
	Position 2	Turn off supply (unit works as a C system)
	Position 3	Start Fireplace function
	Position 4	Reset filter
Input 3 analogue 0-10 V contact	Position 0	Not active. The ventilation system ignores the analogue input.
Output 1 digital open contact	Position 0	General error message
	Position 1	Filter message
Output 2 digital open contact	Position 0	General error message
	Position 1	Filter message
Output 3 analogue 0-10 V contact	Position 0	Not active. The ventilation system ignores the analogue output.

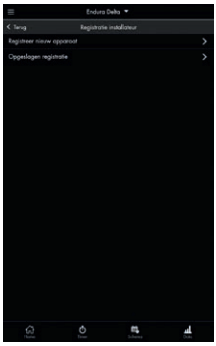
Attention!
Deviation from the normal operation of the unit by using the input/output contacts to then control the fans based on your own logic is entirely at your own risk and responsibility.
The ventilation unit must continuously operate, i.e. the Endura Delta may never be turned off (legal requirement according to NBN D50-001).

f) Installer's registration

After the flow rates have been set, programmed, and checked, and any other settings have been made, then the unit must be registered.

Registering the unit offers you, as the installer, the following advantages:

- Faster assistance in case of a technical problem;
- RENSON® saves the data, installer, and date of installation for you and can always provide you with a copy of this information;
- You can complete a measurement report during the registration. You can send a digital copy of this directly to the principal, architect, and EPB reporter.
- After registration, you will receive an email containing all the data you registered (including the measurement report).
- You will receive a configuration file with all of the set parameters for this unit. This file can be installed later on the same or different units so that the same parameter setting can be carried over.



Select "Installer Registration" in the Installer menu. In the following screen, you can choose between:

- Register the new unit
- Saved registration

If you are registering the unit for the first time, select "Register New Device".

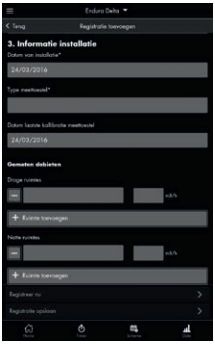
If you have already filled in the registration form, but do not have an active internet connection, then you can save the registration and send this later once you do have an active connection.

Register the new unit

The registration menu consists of three parts:

1. Installer information: here is where the information about the installer is entered, such as: company name, VAT no., installer's full name, email address

2. Unit information: information on the project for which the unit has been installed.



3. Installation information: information about the measured flow rates per room (measurement report).

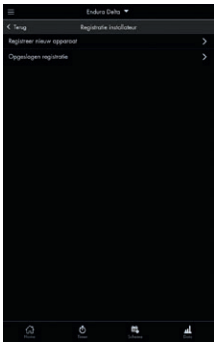
Obviously, the registration must be done after configuring the unit so that you can enter the measured flow rates per room.

As soon as all of the fields have been completed, you can finish the registration by tapping "Register now". Attention! Your unit and smartphone/tablet must be in the same network and this network must have access to the internet.

If this is not the case, you can temporarily save the registration by tapping "Save registration". If you close the app after this and then reopen it when you are connected to a Wi-Fi network with access to the internet, you will be automatically asked if you want to send the saved registration file now.

Upon successfully registering, you will receive a confirmation email with all of the information and a file with the configuration parameters for the unit.

Saved registration



If there is no active access to the internet during the registration, you can choose to save the registration. Normally, upon reopening the app + an active internet connection, you will be asked if you want to send the registration form.

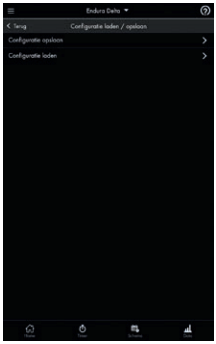
Suppose you initially answer that you want to send it later; then you can find the file in the Installer menu under “Installer registration > Saved registration”. You can also choose to send this registration form.

g) Factory settings

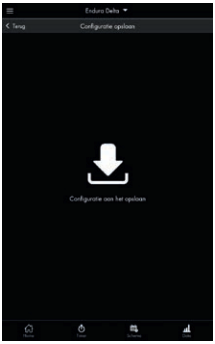
You can use this menu to delete all of the settings and automatically revert to the factory settings. Everything must be configured again (network settings, flow rate settings, registration, etc.).

Load/save a configuration

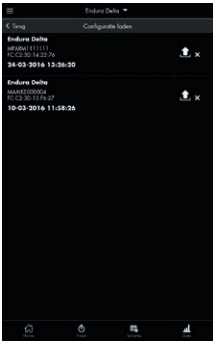
You can save the unit's current configuration under the menu "My device > Load/save configuration" (create back-up), and you can load a saved configuration upon starting up a new unit or after resetting the unit. The unit will take on the parameters as these were saved.



You can choose to save or load in the menu "My device > Load/save configuration".



If you tap "Save configuration", then a copy is made of all the settings. This copy can be loaded later.



If you tap "Load configuration", then you will see an overview of all the available configuration files. The settings are reactivated by loading one of these files.

8.2 • Programming using the TouchDisplay

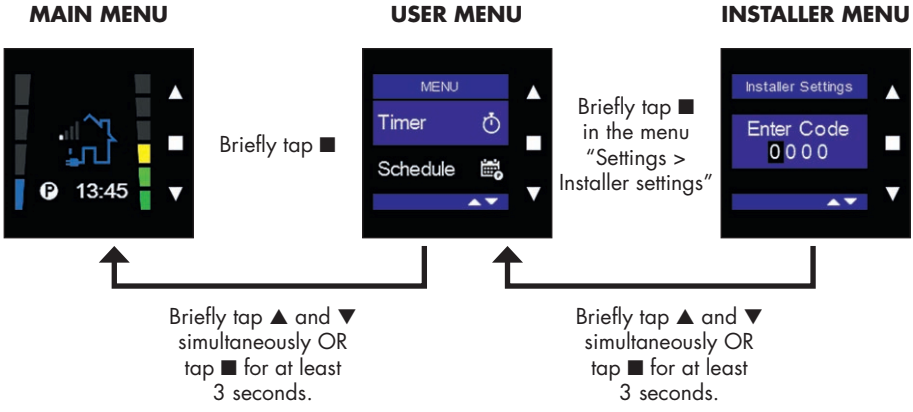
- A TouchDisplay is built into the front panel of the unit as standard. You can set and control the unit using this.
- It is also possible to install an additional TouchDisplay, with an integrated CO_2 sensor, as the Main Controller in the living room. This TouchDisplay is connected to the Endura Delta using a cable (see Section 7 for the connection diagram). A max. length of 30 m.
- A TouchDisplay can also be installed as an external air quality sensor (Sensor Controller). This TouchDisplay does not have all of the functions of the Master Controller.

The TouchDisplay is composed of three MENU levels:

Level 1: MAIN CONTROLLER MENU
This menu allows the user to manually change the ventilation levels.

Level 2: USER MENU
This menu allows the user to change the user settings.

Level 3: INSTALLER MENU
This menu is intended for professional installers because the parameters for one-off commissioning can be set here. This menu is secured using a code.
This manual completely explains the TouchDisplay Level 3.



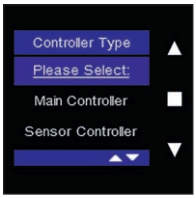
8.2.1 • Starting the TouchDisplay

- If you want to start up an external Master TouchDisplay (Main Controller), you must connect this to the main printed circuit board using a cable (see Section 7.1.1). The Master TouchDisplay is powered by the main printed circuit board.

- If you want to start up the air quality sensor, this must be connected to the mains voltage.

Before a TouchDisplay control can be put into use, the following steps must be taken when starting up the TouchDisplay (only the first time):
- Set the TouchDisplay as the Main Controller or Sensor Controller
- TouchDisplay country selection

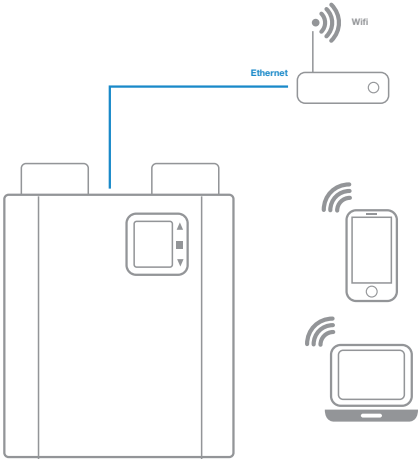
When connecting to the mains voltage, the screen for which the TouchDisplay will be used as MAIN Controller or as SENSOR Controller appears.



You must use the ▼ and ▲ buttons to make your selection. Confirm your choice by tapping ■.

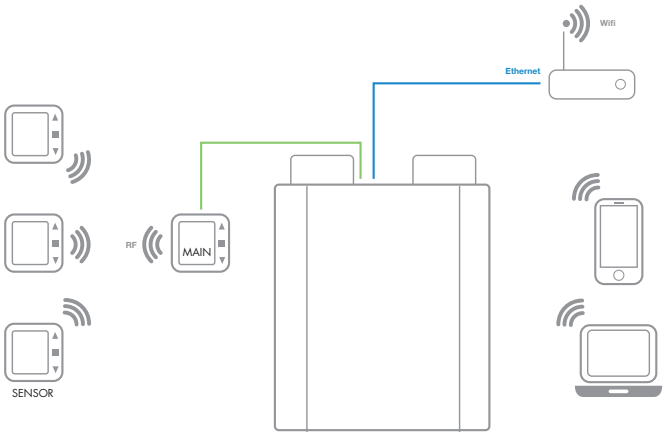
The choice is determined as follows:
- If 1 TouchDisplay is used to control the Endura Delta, select MAIN Controller.

In this case, the built-in TouchDisplay in the front panel of the unit is used as the MAIN Controller.



If you choose to equip the Endura Delta with external controls/sensors, then you must install a TouchDisplay, link it to the system, and set it as the MAIN Controller.

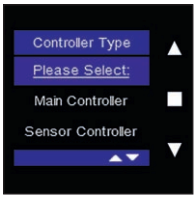
The external controls/sensors are then set as the SENSOR Controller and communicate wirelessly with the MAIN Controller.



Note:
The correct operation of the wireless communication can be disrupted by the presence of a lot of steel, iron, concrete, or other reflective material within the building. See page 68, “RF information”, to check the strength of the signal.

8.2.1.1 • Making the TouchDisplay the Main Controller

When connecting to the mains voltage, the screen for which the TouchDisplay will be used as MAIN Controller appears.



Select "Main Controller" using the ▼ and ▲ buttons, and confirm your selection by tapping ■.

The "Select Region" screen appears. Use the ▼ and ▲ buttons to select your country, and confirm by tapping ■. The factory settings for your choice of country are loaded.

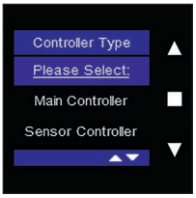
After confirming your country, the Main Controller menu opens.
You can now begin correctly programming the Endura Delta. Use the Installer menu "Settings > Installer settings > Flow rate settings" for this. See Section 8.2.3.1.

Note:
A Main Controller must always be connected to the Endura Delta using a cable. Therefore, the Main Controller TouchDisplay cannot communicate wirelessly with the unit. If you install external sensors (Sensor Controller), then these can communicate wirelessly with the Main Controller.

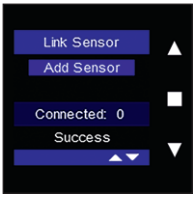
8.2.1.2 • Making the TouchDisplay the Sensor Controller

If you want to install an external TouchDisplay as an air quality sensor, you must make sure that a Main Controller is installed that is connected to the Endura Delta using a cable.

When connecting the air quality sensor to the mains voltage, the screen for which the TouchDisplay will be used as Sensor Controller appears.



Select “Main Controller” using the ▼ and ▲ buttons, and confirm your selection by tapping ■.



The/each TouchDisplay must be individually linked to the Endura Delta in order to achieve wireless data transmission.

The “Link Sensor” screen appears and “Add Sensor” lights up.

It must now be linked to the Endura Delta.

Note:
A sensor can only be linked to a Main Controller! Therefore, a Main Controller must be installed before you can link any sensors.

Procedure:

- The links must be done within close proximity. We recommend linking the Sensor Controller and Main Controller within the same room at a distance of > 3 m.
- The link is made by individually “opening” an Endura Delta and a controller, and allowing them to “search” for a connection.
- Ensure that the Main Controller is turned on (mains voltage must be live).

Then tap ■ in the TouchDisplay.
An extra line appears at the bottom of the display that says “Linking”.

Once the link is successful, "Success" appears at the bottom of the screen and the main screen opens.

The air quality sensor is now linked to the Main Controller and will register the CO_2 level in the relevant room.

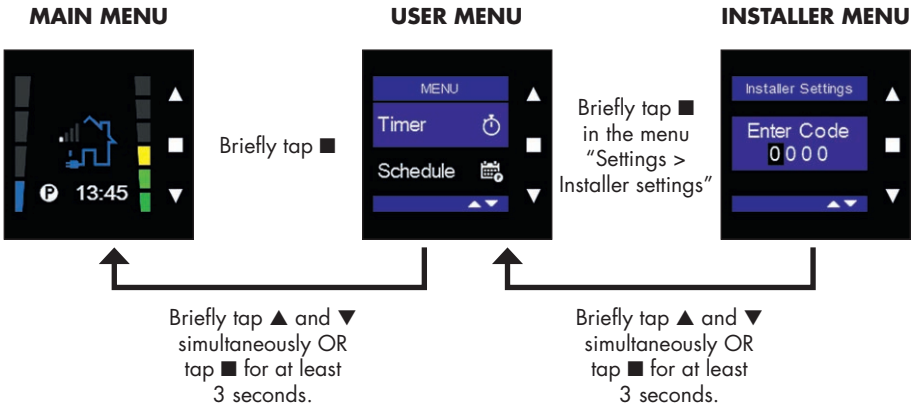
If the link is not made, then "Failed" appears on the screen. Repeat the link procedure.

Note:

- After a power outage involving the Endura Delta and/or the TouchDisplay, both devices remain connected to one another.
- Follow the steps in Section *8.2.3.2 • Factory Reset* to interrupt the link between the sensor TouchDisplay and the Endura Delta.
- You can go back to the MAIN/SENSOR settings from the Link Control menu by briefly tapping ▲ and ▼ simultaneously.

8.2.3 • Programming the Endura® Delta using the TouchDisplay

Go to the Installer menu in order to gain access to the relevant menus for programming the system.



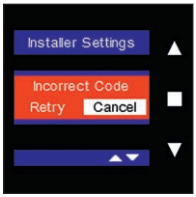
8.2.3.1 • Installer Settings

The installer can use this menu to change the basic settings for the Endura Delta. We recommend that users do not change these settings themselves. Always consult your installer. Changing some of these parameters can have an impact on the correct operation of the Endura Delta. Changes that are not made by a professional installer are done entirely at your own risk and RENSON® is not responsible for any damages to the unit or poor air quality in the home as a result of incorrect changes to the Installer settings.

Select "Installer Settings" using ▲ and ▼, and confirm by tapping ■.

You will be asked to enter an access code. The code is the last 4 digits in your unit's warranty number. You can find the warranty code on the sticker on the unit itself, or in the User Menu "Settings > My Device > Device Information > Warranty Number (see 11.1.3.4.1.1).

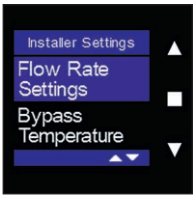
Change the code using ▲ and ▼, and confirm each time by tapping ■. To exit the menu, briefly tap ▲ and ▼ simultaneously.



If you enter the wrong code, the following screen appears. You can try to enter the code again or exit the menu by tapping "Cancel".

Flow Rate Settings

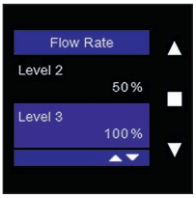
You can change the ventilation levels using this menu. You can define the nominal ventilation level (design position = C-mode) up to four ventilation levels.



Select "Flow Rate Settings" using ▲ and ▼, and confirm by tapping ■.

You can then set the nominal ventilation flow rates. This is equal to the design flow rate for the entire home. The Endura Delta is a balanced system, therefore: supply flow rate = extraction flow rate = nominal flow rate.

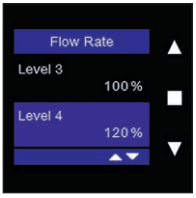
You can set the intensity of the four ventilation levels yourself.



L1 = 10% - 50%	Default	L1 = 25%
L2 = 10% - 75%		L2 = 50%
L3 = 10% - 100%		L3 = 75%
L4 = 10% - 120%		L4 = 100%

E.g. the total required flow rate for the home is 350 m^3/h
Level 1 = 15% of Qnom = 52.5 m^3
Level 2 = 40% of Qnom = 140 m^3/h
Level 3 = 100% of Qnom = 350 m^3/h
Level 4 = 120% of Qnom = boost = 420 m^3/h

In this example, Level 3 is equal to the design position. In order to calibrate the unit and measure the flow rate, you can put the unit into C-mode (see 11.1.3.4.1.9).



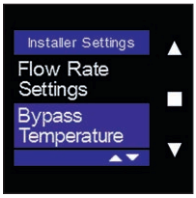
Use ▲ and ▼ to select the component to be changed in order to set the flow rates and levels, and confirm by tapping ■.

To return to the Installer menu, briefly tap ▲ and ▼ simultaneously.

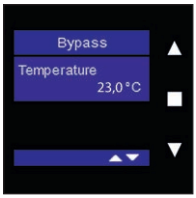
Bypass Temperature

You can change the Bypass temperature using this menu. This is set to 23°C (indoor temperature) by default. The Bypass is activated when the following conditions have been met:

- Outdoor temperature > set Bypass temperature - 6°C
- Outdoor temperature < actual indoor temperature
- Indoor temperature > set Bypass temperature (23°C)



Select “Bypass Temperature” using ▲ and ▼, and confirm by tapping ■.



Change the temperature using ▲ and ▼, and confirm by tapping ■.

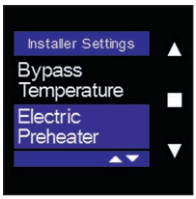
To exit the menu, briefly tap ▲ and ▼ simultaneously.

Electric Preheater (optional)

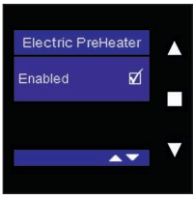
You can turn the electric preheater on or off using this menu. Please note that not all Endura Delta units are equipped with a preheater as standard. If you want this element, you must order the correct type of unit.

If you have an Endura Delta with a preheater, then the “electric preheater” is enabled by default.

Turning off the preheater can accelerate the freezing of the heat exchanger when the conditions are right for frost to form. We recommend that you do not turn off this function.



Select “Electric Preheater” using ▲ and ▼, and confirm by tapping ■.



The electric preheater is enabled by default if the Endura Delta is equipped with an electric preheater. To turn off this function, briefly tap ■.

To exit the menu, briefly tap ▲ and ▼ simultaneously.

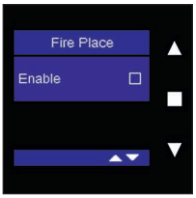
Fire Place function

This menu shows you if the "Fireplace function" has been activated or not. The Fireplace function can only be activated using an external switch that can be connected to the 24 V DC input contact on the main board (see 7.1).

When turning on this function, the home is temporarily over-pressurised, so that the fireplace burns easier and more oxygen is temporarily supplied.

Example: you set a differential flow rate of 50 m^3/h. The unit operates balanced at a level of 200 m^3/h supply and discharge. Upon activating the Fireplace function, the supply increases to 225 m^3/h and the discharge decreases to 175 m^3/h, so that the supply gains a difference of 50 m^3/h.

Select "Fire Place function" using ■.



Tap ■ to activate the function. The Fireplace function can only be controlled via an external switch! (See Section 7.1 for the electrical diagram.)

Select "Unbalance" using ■ and change the flow rate using ▲ and ▼. Confirm your choice by tapping ■.

To exit the menu, briefly tap ▲ and ▼ simultaneously.

Select “Preset Time” using ■ and change the time interval using ▲ and ▼. Confirm your choice by tapping ■.

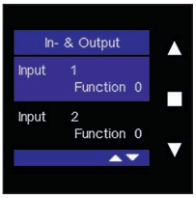
To exit the menu, briefly tap ▲ and ▼ simultaneously.

Input & Output Settings

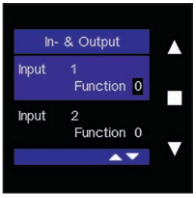
You can determine the functions for the set input and output contacts using this menu. These functions are listed below.

Input 1 digital open contact	Position 0	Turn off supply and discharge (fire safety)
	Position 1	Turn off discharge
	Position 2	Turn off supply (unit works as a C system)
	Position 3	Start Fireplace function
	Position 4	Reset filter
Input 2 digital open contact	Position 0	Turn off supply and discharge (fire safety)
	Position 1	Turn off discharge
	Position 2	Turn off supply (unit works as a C system)
	Position 3	Start Fireplace function
	Position 4	Reset filter
Input 3 analogue 0-10 V contact	Position 0	Not active. The ventilation system ignores the analogue input.
Output 1 digital open contact	Position 0	General error message
	Position 1	Filter message
Output 2 digital open contact	Position 0	General error message
	Position 1	Filter message
Output 3 analogue 0-10 V contact	Position 0	Not active. The ventilation system ignores the analogue output.

Select “In- & Output Settings” using ▲ and ▼, and confirm by tapping ■.



Select the input or output contact that you want to change using ▲ and ▼, and confirm by tapping ■.



Select the function you want to activate using ▲ and ▼, and confirm by tapping ■.

To exit the menu, briefly tap ▲ and ▼ simultaneously.

Reset Device

You can delete the settings for the Endura Delta and reset them to the factory settings using this menu.

Select "Reset Device" using ▲ and ▼ and confirm by tapping ■.

Select "OK" using ▼ and confirm by tapping ■ to delete the current settings and reset them to the factory settings.

To exit the menu, briefly tap ▲ and ▼ simultaneously.

8.2.3.2 • My Controller

Using this menu, you can change the settings for controlling the TouchDisplay: information on viewing the controls, master/slave setting, linking a sensor, change the screen settings, set a controller as repeater, check the signal strength, set the CO_2 threshold, and reset the controls.

Select “My Controller” using ▲ and ▼, and confirm by tapping ■.

Controller Information

This menu contains the information on the firmware version, the serial number, and the controller type. Navigate through the menu using ▲ and ▼. To exit the menu, briefly tap ▲ and ▼ simultaneously.

Select “Controller Information” using ▲ and ▼, and confirm by tapping ■.

Firmware

This shows the firmware that is active on the controller.

Serial number

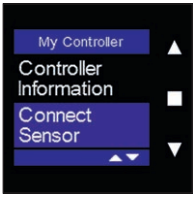
You can find the serial number for the controller here.

Controller type

You can find out whether the controller is set as the "Main Controller" or as the "Sensor Controller" air quality sensor here.

Connect sensor

You can link the Sensor Controllers to the Main Controller using this menu.



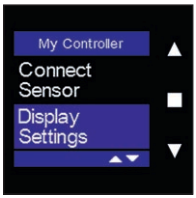
Select "Connect Sensor" using ▲ and ▼, and confirm by tapping ■.

Tap "Add Sensor" using ■. You can interrupt the link by tapping "Stop Adding" using ■.

You can see how many air quality sensors are already linked to the Main Controller at the bottom of the screen. Once the air quality sensor is successfully linked, "Success" then appears at the bottom of the screen.

Display Settings

You can change the settings for the controller or air quality sensor using this menu.



Select “Display Settings” on the Sensor Controller using ▲ and ▼, and confirm by tapping ■.

Active Time

Select “Active Time” using ▲ and ▼, and confirm by tapping ■.

You can change the time interval for the screensaver using ▲ and ▼. By default, this “Active Time” is set at five minutes. If the screen has not been active for five minutes, then the screensaver is activated. Tapping one of the three buttons will activate the screen again.

Brightness Active

Select “Brightness Active” using ▲ and ▼, and confirm by tapping ■.

Use ▲ and ▼ to adjust the brightness of the screen when in active mode. Confirm your choice by tapping ■.

Brightness Standby

Select “Brightness Standby” using ▲ and ▼, and confirm by tapping ■.

Use ▲ and ▼ to adjust the brightness of the screen when in standby mode (screensaver). Confirm your choice by tapping ■.

Language

Select “Language” using ▲ and ▼, and confirm by tapping ■.
The Controller language is set to English by default.

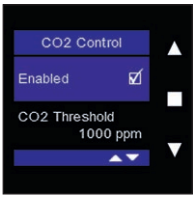
Use ▲ and ▼ to change the language of the Controller. Confirm your choice by tapping ■.

CO_2 threshold

You can set the threshold value for the CO_2 registration for the Sensor Controller using this menu. Please note that this function can only be activated for the external Main Controller or a Sensor Controller. This function cannot be activated on the TouchDisplay that is recessed into the front panel of the Endura Delta because this is not equipped with an air quality sensor.

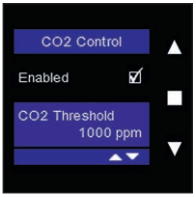
This value is set to 1,000 ppm (parts per million) by default. Once the CO_2 concentration in the room where the controller is located exceeds this value, the "pollution triggered ventilation level" will begin to operate (see 8.1.3.4.1.6). The higher you set this value, the later the additional ventilation will start to operate. In order to guarantee good air quality, we recommend that you do not raise this threshold value.

Enabled/disabled



This function is enabled by default for a Main/Sensor Controller.
This function is disabled for the recessed Controller in the front panel.

CO_2 threshold



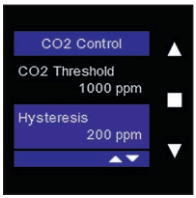
In order to change the threshold, select "CO_2 Threshold" using ▲ and ▼, and confirm by tapping ■.

You can change the value by 50 ppm using the ▲ and ▼. Confirm your choice by tapping ■.

Hysteresis

The hysteresis value expresses how much the CO_2 level must be reduced when the CO_2 threshold has been exceeded in order to deactivate the "pollution triggered ventilation level" and to go back to the programming control.

Example:
The CO_2 threshold value is set at 1,000 ppm and the hysteresis is set at 200 ppm. The Sensor Controller records 1,100 ppm and the "pollution triggered ventilation level" is therefore activated. Once the CO_2 level in the relevant room drops below 800 ppm (1,000 ppm - 200 ppm), the "pollution triggered ventilation level" is deactivated and the programming control is reactivated.

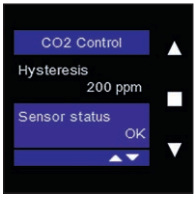


In order to change the hysteresis, select "Hysteresis" using ▲ and ▼, and confirm by tapping ■.

You can change the value by 50 ppm using the ▲ and ▼. Confirm your choice by tapping ■.

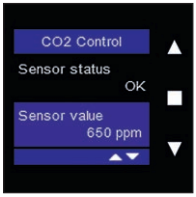
To exit the menu, briefly tap ▲ and ▼ simultaneously.

Sensor status



If a problem with the integrated sensor in the Main/Sensor Controller occurs, this is displayed here.
- OK: everything is operating as it should
- Internal error: There is a problem with the sensor.
- Sensor stuck: The registered CO_2 value has remained the same for the past 24 hours.
Disconnect the mains and restart the controller.
If the problem occurs again after 24 hours, the sensor must be replaced.
- Comm. Error: Communications with the sensor have been disrupted.
Disconnect the mains and restart the controller.
If the problem occurs again, the sensor must be replaced.

Sensor value



This value shows the actual CO_2 level registered by the sensor.

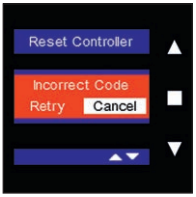
Reset Controller

You can reset the Main/Sensor Controller using this menu. You can choose to restart the Controller without having to change the settings (Software Reset). You can also choose to interrupt the link between one or more Sensor Controllers and the Main Controller (Clear Sensor(s)). In addition, you can also choose to delete the Controller settings and reset them to the factory settings (Factory Reset).

Select “Reset Controller” on the Main/Sensor Controller using ▲ and ▼, and confirm by tapping ■.

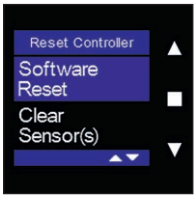
To exit the menu early, briefly tap ▲ and ▼ simultaneously.

You must enter the installer code to gain access. See Section 8.2.3.1.



If you enter the wrong code, the following screen appears. You can try to enter the code again or exit the menu by tapping “Cancel”.

Software Reset
By initiating a "Software Reset", you restart the Controller via the software. This can be helpful if the Controller is not responding correctly.

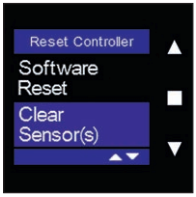


Select "Software Reset" on the Main/Sensor Controller using ▲ and ▼, and confirm by tapping ■.

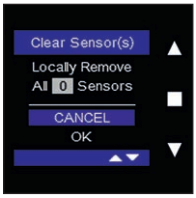
If you wish to continue with the software reset, select "OK" using ▼ and confirm by tapping ■.

The Controller is now restarted and you will be returned to the Main menu.

Clear Sensor(s)
You can interrupt the link between one or more of the Sensor Controller(s) and the Main Controller using this menu. This function is only accessible from the Main Controller.



Select "Clear Sensor(s)" on the Main Controller using ▲ and ▼, and confirm by tapping ■.



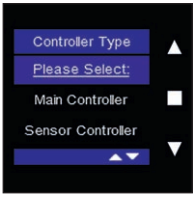
If you wish to continue interrupting the link, select "OK" using ▼ and confirm by tapping ■.

Factory Reset

You can delete the settings for the Controller and reset them to the factory settings using this menu.

Select “Factory Reset” on the Main/Sensor Controller using ▲ and ▼, and confirm by tapping ■.

If you wish to continue deleting the settings, select “OK” using ▼ and confirm by tapping ■.



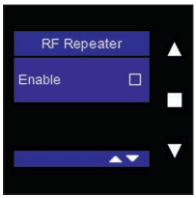
Then indicate which type of controller is concerned using ▲ and ▼, and confirm by tapping ■.

You will be returned to the Main menu after this.

RF Repeater (only available with the Sensor Controller)

A Sensor Controller can be set as the RF Repeater using this menu. Setting the Controller as the Repeater can be useful if another controller is too far away from the Main Controller. After all, it is possible that a signal, generated on the other controller, cannot reach the Endura Delta. By setting the Controller as the Repeater, the signal sent by the other Controller will be transferred through another Controller that is closer to the ventilation system. The Controller then signals the ventilation system.

Select “RF Repeater” on the Sensor Controller using ▲ and ▼, and confirm by tapping ■.



To set the Sensor Controller as the RF Repeater, tap “Enable” using ■.

To exit the menu, briefly tap ▲ and ▼ simultaneously.

RF Information (only available with the Sensor Controller)

You can control the signal strength of the wireless link between the Sensor Controller and the Main Controller using this menu. Based on this information, it can be determined whether a Sensor Controller must be set as an “RF Repeater”.

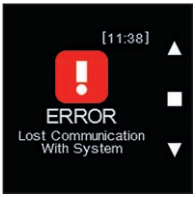
Select “RF Information” on the Sensor Controller using ▲ and ▼, and confirm by tapping ■.

The signal strength (RSSI) is indicated by a green bar with a number between 0 and 100 in front of it. (0 = no signal, 100 = optimum signal). The higher the value, the stronger the signal. The PER value indicates how many data packages have been lost. The lower the value, the stronger the signal.

"Clear" lights up. The signal strength is deleted by tapping ■. This can be useful to check the signal strength. To do this, select "Ventilation Level" in the Main menu, and then select "Signal Strength". The menu now shows you the actual values.

To exit the menu, briefly tap ▲ and ▼ simultaneously.

8.2.3.3 • Error messages



If the link to the ventilation system is broken, the following error message is displayed: "error lost communication with system".

- The TouchDisplay tries to repair the link itself only if the error screen remains after multiple failed attempts.
- Use the "Connect Sensor" menu to manually repair the link (see 8.2.3.2).

9 • Problem-solving and maintenance by the installer

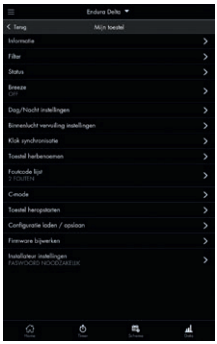
As an installer, you may be called upon to solve any problems that occur in the operation of the Endura Delta. In addition to this, you may be called upon to clean/service the unit for maintenance.

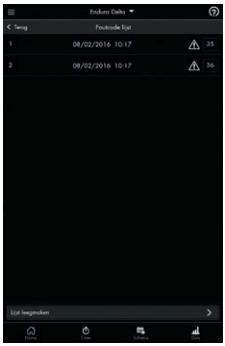
9.1 • Problem-solving

If you are contacted by an end customer concerning a problem, ask this person to provide the error code so that you can make a correct diagnosis.

The Error Log can be found in the Endura Delta app and on the TouchDisplay.

9.1.1 • Endura® Delta App Error Log





The menu “Settings > Error Code List” displays an overview of the generated error codes and the time+date stamp of the error message. Tap the code to open a detailed description of the problem.

9.1.2 • TouchDisplay Error Log

Select “Error Log” using ▲ and ▼, and confirm by tapping ■.

To exit the menu, briefly tap ▲ and ▼ simultaneously.

You can delete the old error messages by tapping “Clear”. Tap ■ to clear the list and restart the unit.

Error code overview

Error no.	Short description	System action	Long description	Action
0	Non existing error	Warning The unit continues to operate.	An undefined error occurred.	1. Turn off the power for 30 seconds and then restart the unit. 2. If this error message reappears after restarting the unit, please contact your installer/the Renson after-sales service.
1	Extract Air IAQ sensor missing	Warning The unit continues to operate.	The indoor air quality (IAQ) sensor cannot be found during start-up, although this was found during previous activations of the unit. This means that the sensor has been damaged or has come loose.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the IAQ printed circuit board.
2	Extract Air IAQ Read Error	Warning The unit continues to operate.	The system cannot read the indoor air quality sensor values.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the IAQ printed circuit board. 3. If the error message remains, then the motherboard may need to be replaced.
3	Extract Air IAQ too low	Warning The unit continues to operate.	Very low indoor air quality values show that the VOC sensor is defective.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the IAQ printed circuit board. 3. If the error message remains, then the motherboard may need to be replaced.
4	Extract Air IAQ too high	Warning The unit continues to operate.	Very high indoor air quality values show that the IAQ sensor is defective.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the IAQ printed circuit board. 3. If the error message remains, then the motherboard may need to be replaced.
5	Extract Air IAQ static	Warning The unit continues to operate.	Static indoor air quality values show that the IAQ sensor is defective.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the IAQ printed circuit board. 3. If the error message remains, then the motherboard may need to be replaced.
6	Extract Air (T11/ RH) sensor missing	Warning The unit continues to operate.	The SHT20 sensor cannot be found during start-up, although this was found during previous activations of the unit. This means that the sensor has been damaged or has come loose.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the IAQ printed circuit board. 3. If the error message remains, then the motherboard may need to be replaced.

Error no.	Short description	System action	Long description	Action
7	Extract air (T11/ RH) sensor missing	Warning The unit continues to operate.	The T9602 sensor cannot be found during start-up, although this was found during previous activations of the unit. This means that the sensor has been damaged or has come loose.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the T9602 sensor. 3. If the error message remains, then the motherboard may need to be replaced.
8	Extract air (T11/ RH) sensor missing	Warning The unit continues to operate.	No temperature/relative humidity sensor could be found. This means that the sensor has been damaged or has come loose.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the IAQ printed circuit board. 3. If the error message remains, then the motherboard may need to be replaced.
9	Extract air (T11/ RH) sensor error	Warning The unit continues to operate.	An error occurred when reading the values for the SHT20 sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the IAQ printed circuit board. 3. If the error message remains, then the motherboard may need to be replaced.
10	Extract air (T11/ RH) temperature too low	Warning The unit continues to operate.	There are abnormally low temperature values detected via the SHT20 sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the IAQ printed circuit board. 3. If the error message remains, then the motherboard may need to be replaced.
11	Extract air (T11/ RH) temperature too high	Warning The unit continues to operate.	There are abnormally high temperature values detected via the SHT20 sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the IAQ printed circuit board. 3. If the error message remains, then the motherboard may need to be replaced.
12	Extract air (T11/ RH) temperature static	Warning The unit continues to operate.	SHT20 sensor failure. The temperature values have remained constant for the past 24 hours.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the IAQ printed circuit board. 3. If the error message remains, then the motherboard may need to be replaced.
13	Extract air (T11/ RH) RH too low	Warning The unit continues to operate.	SHT20 sensor failure. There are abnormally low relative humidity values detected via the SHT20 sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the IAQ printed circuit board. 3. If the error message remains, then the motherboard may need to be replaced.

Error no.	Short description	System action	Long description	Action
14	Extract air (T11/ RH) RH too high	Warning The unit continues to operate.	SHT20 sensor failure. There are abnormally high relative humidity values detected via the SHT20 sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the IAQ printed circuit board. 3. If the error message remains, then the motherboard may need to be replaced.
15	Extract air (T11/ RH) RH static	Warning The unit continues to operate.	SHT20 sensor failure. The relative humidity values have remained constant for the past 24 hours.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the IAQ printed circuit board. 3. If the error message remains, then the motherboard may need to be replaced.
16	Extract air (T11/ RH) sensor error	Warning The unit continues to operate.	T9602 sensor failure. An error occurred when reading the values for the T9602 sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the T9602 sensor. 3. If the error message remains, then the motherboard may need to be replaced.
17	Trh Temp too low	Warning The unit continues to operate.	T9602 sensor failure. Abnormally low value detected via the T9602 sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the T9602 sensor. 3. If the error message remains, then the motherboard may need to be replaced.
18	Trh temp too high	Warning The unit continues to operate.	T9602 sensor failure. Abnormally high value detected via the T9602 sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the T9602 sensor. 3. If the error message remains, then the motherboard may need to be replaced.
19	Trh temp static	Warning The unit continues to operate.	T9602 sensor failure. The temperature values have remained constant for the past 24 hours.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the T9602 sensor. 3. If the error message remains, then the motherboard may need to be replaced.
20	Trh RH too low	Warning The unit continues to operate.	T9602 sensor failure. There are abnormally low relative humidity values detected via the T9602 sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the T9602 sensor. 3. If the error message remains, then the motherboard may need to be replaced.

Error no.	Short description	System action	Long description	Action
21	Trh RH too high	Warning The unit continues to operate.	T9602 sensor failure. There are abnormally high relative humidity values detected via the T9602 sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the T9602 sensor. 3. If the error message remains, then the motherboard may need to be replaced.
22	Trh RH static	Warning The unit continues to operate.	T9602 sensor failure. The relative humidity values have remained constant for the past 24 hours.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the T9602 sensor. 3. If the error message remains, then the motherboard may need to be replaced.
23	Exhaust air temperature (T12) too low	Critical warning The unit has stopped working.	T12 sensor failure. Abnormally low value detected via the T12 sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the T12 sensor. 3. If the error message remains, then the motherboard may need to be replaced.
24	Exhaust air temperature (T12) too high	Critical warning The unit has stopped working.	T12 sensor failure. Abnormally high value detected via the T12 sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the T12 sensor. 3. If the error message remains, then the motherboard may need to be replaced.
25	Exhaust air temperature (T12) static	Critical warning The unit has stopped working.	T12 sensor failure. The temperature values have remained constant for the past 24 hours.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the T12 sensor. 3. If the error message remains, then the motherboard may need to be replaced.
26	Outdoor air temperature (T21) too low	Critical warning The unit has stopped working.	T21 sensor failure. Abnormally low value detected via the T21 sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the T21 sensor. 3. If the error message remains, then the motherboard may need to be replaced.

Error no.	Short description	System action	Long description	Action
27	Outdoor air temperature (T21) too high	Critical warning The unit has stopped working.	T21 sensor failure. Abnormally high value detected via the T21 sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the T21 sensor. 3. If the error message remains, then the motherboard may need to be replaced.
28	Outdoor air temperature (T21) static	Critical warning The unit has stopped working.	T21 sensor failure. The temperature values have remained constant for the past 24 hours.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the T21 sensor. 3. If the error message remains, then the motherboard may need to be replaced.
29	Outdoor air temperature (T21bis) too low	Critical warning The unit has stopped working.	T21bis sensor failure. Abnormally low value detected via the T21bis sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the T21bis sensor. 3. If the error message remains, then the motherboard may need to be replaced.
30	Outdoor air temperature (T21bis) too high	Critical warning The unit has stopped working.	T21bis sensor failure. Abnormally high value detected via the T21bis sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the T21bis sensor. 3. If the error message remains, then the motherboard may need to be replaced.
31	Outdoor air temperature (T21bis) static	Critical warning The unit has stopped working.	T21bis sensor failure. The temperature values have remained constant for the past 24 hours.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the T21bis sensor. 3. If the error message remains, then the motherboard may need to be replaced.
32	Supply air temperature (T22) too low	Critical warning The unit has stopped working.	T22 sensor failure. Abnormally low value detected via the T22 sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the T22 sensor. 3. If the error message remains, then the motherboard may need to be replaced.

Error no.	Short description	System action	Long description	Action
33	Supply air temperature (T22) too high	Critical warning The unit has stopped working.	T22 sensor failure. Abnormally high value detected via the T22 sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the T22 sensor. 3. If the error message remains, then the motherboard may need to be replaced.
34	Supply air temperature (T22) static	Critical warning The unit has stopped working.	T22 sensor failure. The temperature values have remained constant for the past 24 hours.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the T22 sensor. 3. If the error message remains, then the motherboard may need to be replaced.
35	Supply fan tacho error	Critical warning The unit has stopped working.	Supply fan failure. Supply fan tacho error.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, check the supply fan wiring. 3. If the error message remains, then the motherboard or the supply fan itself may need to be replaced.
36	Exhaust fan tacho error	Critical warning The unit has stopped working.	Exhaust fan failure. Exhaust fan tacho error.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, check the exhaust fan wiring. 3. If the error message remains, then the motherboard or the exhaust fan itself may need to be replaced.
37	Quali sensor error	Warning The unit continues to operate.	External air quality sensor failure. The linked air quality sensor(s) display an error message.	1. View the error log on the air quality sensor and restart the sensor (via the software or by turning the power off and back on). 2. If the error message remains after restarting, the external air quality sensor needs to be replaced.
38	Supply pressure sensor read error	Critical warning The unit has stopped working.	The supply pressure sensor cannot be read.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, check the pressure lines and pressure openings. Check to see if there are any obstructions or build-up present. 3. If there are no obstructions or build-up present, then the motherboard may need to be replaced.

Error no.	Short description	System action	Long description	Action
39	Supply pressure sensor value too low	Critical warning The unit has stopped working.	Supply pressure sensor failure. Abnormally low value detected via the pressure sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, check the pressure lines and pressure openings. Check to see if there are any obstructions or build-up present. 3. If there are no obstructions or build-up present, then the motherboard may need to be replaced.
40	Supply pressure sensor value too high	Critical warning The unit has stopped working.	Supply pressure sensor failure. Abnormally high value detected via the pressure sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, check the pressure lines and pressure openings. Check to see if there are any obstructions or build-up present. 3. If there are no obstructions or build-up present, then the motherboard may need to be replaced.
41	Supply pressure sensor static value	Critical warning The unit has stopped working.	Supply pressure sensor failure. The pressure values have remained constant for the past 24 hours.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, check the pressure lines and pressure openings. Check to see if there are any obstructions or build-up present. 3. If there are no obstructions or build-up present, then the motherboard may need to be replaced.
42	Exhaust pressure sensor read error	Critical warning The unit has stopped working.	The exhaust pressure sensor cannot be read.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, check the pressure lines and pressure openings. Check to see if there are any obstructions or build-up present. 3. If there are no obstructions or build-up present, then the motherboard may need to be replaced.
43	Exhaust pressure sensor value too low	Critical warning The unit has stopped working.	Exhaust pressure sensor failure. Abnormally low value detected via the pressure sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, check the pressure lines and pressure openings. Check to see if there are any obstructions or build-up present. 3. If there are no obstructions or build-up present, then the motherboard may need to be replaced.
44	Exhaust pressure sensor value too high	Critical warning The unit has stopped working.	Exhaust pressure sensor failure. Abnormally high value detected via the pressure sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, check the pressure lines and pressure openings. Check to see if there are any obstructions or build-up present. 3. If there are no obstructions or build-up present, then the motherboard may need to be replaced.

Error no.	Short description	System action	Long description	Action
45	Exhaust pressure sensor static value	Critical warning The unit has stopped working.	Exhaust pressure sensor failure. The pressure values have remained constant for the past 24 hours.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, check the pressure lines and pressure openings. Check to see if there are any obstructions or build-up present. 3. If there are no obstructions or build-up present, then the motherboard may need to be replaced.
46	DAC error	Critical warning The unit has stopped working.	Conversion error from digital to analogue in the motherboard.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error remains after restarting, then the motherboard needs to be replaced.
47	Supply air temperature (T22) too cold	Critical warning The unit has stopped working.	The supply air temperature is too low. Emergency shutdown.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, make sure the Bypass is working.
48	Extract air (T11ANA) temperature too low	Critical warning The unit has stopped working.	Abnormally low temperatures detected via the temperature sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the temperature sensor. 3. If the error message remains, then the motherboard may need to be replaced.
49	Extract air (T11ANA) temperature too high	Critical warning The unit has stopped working.	Abnormally high temperatures detected via the temperature sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the temperature sensor. 3. If the error message remains, then the motherboard may need to be replaced.
50	Extract air (T11ANA) temperature static	Critical warning The unit has stopped working.	Temperature sensor failure. The temperature has remained constant for the past 24 hours.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the temperature sensor. 3. If the error message remains, then the motherboard may need to be replaced.

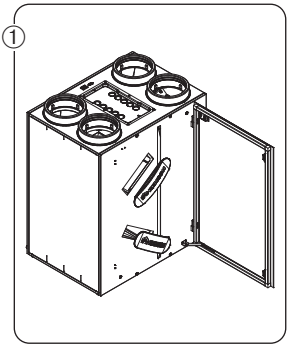
Error no.	Short description	System action	Long description	Action
51	Extract air CO_2 sensor missing	Warning The unit continues to operate.	The CO_2 sensor cannot be found during start-up, although this was found during previous activations of the unit. This means that the sensor has been damaged or has come loose.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the CO_2 printed circuit board.
52	Extract air CO_2 read error	Warning The unit continues to operate.	An error occurred when reading the CO_2 sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the CO_2 printed circuit board. 3. If the error message remains, then the motherboard may need to be replaced.
53	Extract air CO_2 too low	Critical warning The unit has stopped working.	Abnormally low CO_2 value detected via the CO_2 sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the CO_2 printed circuit board. 3. If the error message remains, then the motherboard may need to be replaced.
54	Extract air CO_2 too high	Critical warning The unit has stopped working.	Abnormally high CO_2 value detected via the CO_2 sensor.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the CO_2 printed circuit board.
55	Extract air CO_2 static	Critical warning The unit has stopped working.	CO_2 sensor failure. The CO_2 values have remained constant for the past 24 hours.	1. Turn off the power for 30 seconds and then restart the unit. 2. If the error message remains, try reconnecting the connectors or replace the CO_2 printed circuit board. 3. If the error message remains, then the motherboard may need to be replaced.
56	Invalid error	Critical warning The unit has stopped working.	An invalid error has occurred.	1. Turn off the power for 30 seconds and then restart the unit. 2. If this error reappears after restarting the unit, please contact your installer/the Renson after-sales service.

9.2 • Maintenance

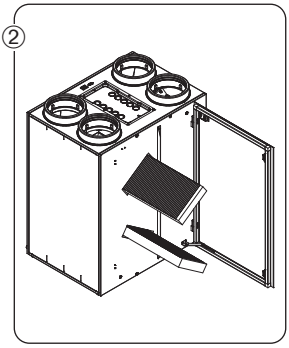
Contact your installer to schedule a thorough inspection and cleaning of your unit.
We recommend having the unit inspected every year and cleaned at least every three years.
Make sure that the unit is turned off and unplugged before starting to service it for maintenance!

9.2.1 • Cleaning/replacing filters

Make sure that the unit is turned off and unplugged before removing the filters!

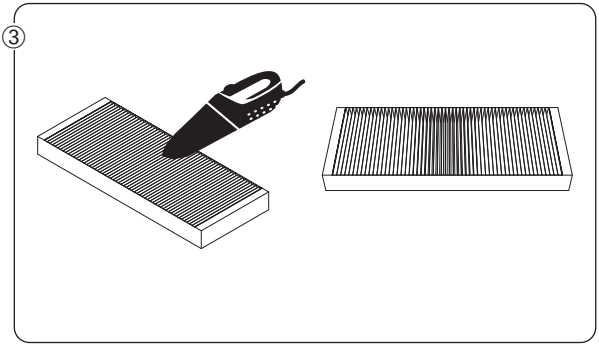
① 

- Open the door and remove the filter caps.

② 

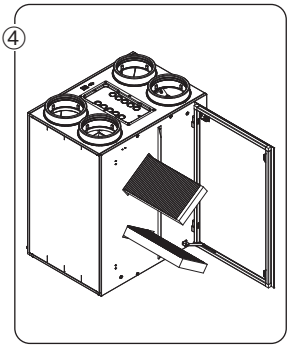
- Before removing the filters from the openings, be sure to clearly mark which filter was on top and which filter was on bottom, and in which direction they are placed, so that it is easy to return them to the correct position after cleaning.

Note:
– If you use 2 G4 filters, mark their positions and direction, and return them to the correct position after cleaning.
– If you combine an F7 and G4 filter, then you must always place the F7 filter underneath and the G4 filter on top! Mark the positions in which they were placed and return them to the correct position after cleaning.

③ 

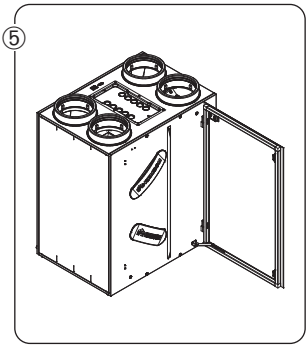
- Clean the filters using a vacuum. If you regularly vacuum the filters, the filters could show signs of wear and tear. In this case, replace the filter in order to continue to guarantee the correct operation of the system.

④



- Place the filters back in the same position they were in before they were removed from the unit.

⑤

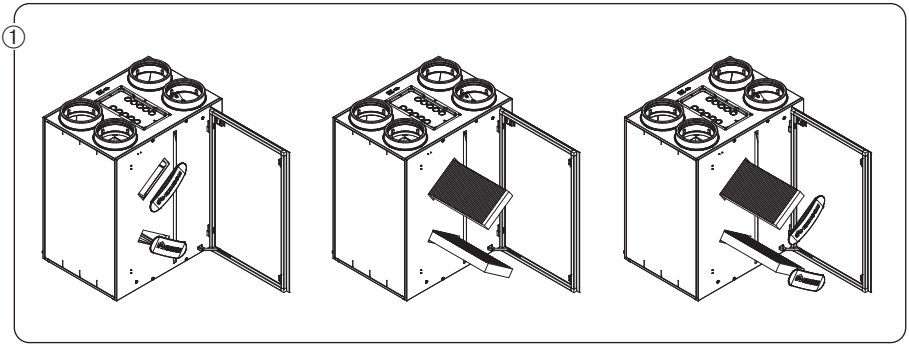


- Close the filters using the filter caps. Make sure that the filter caps are put back into the correct position to ensure the airtightness of the unit.

Restart the unit by turning the power back on. Carry out a “filter reset” on the controls (TouchDisplay/App/XVK 4-position switch).

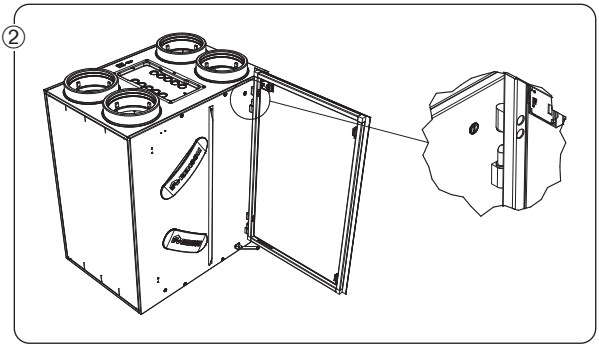
9.2.2 • Cleaning the heat exchanger

①



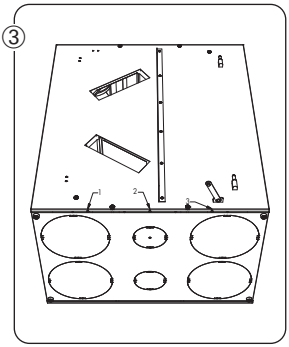
• Remove the filter caps and the filters.

②



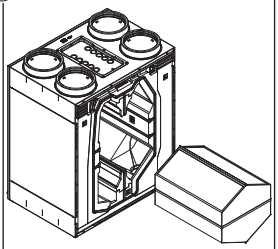
• Then remove the glass panel (only for types 380 and 450) by lifting it out of the hinges. Make sure that the power cable for the built-in TouchDisplay has been disconnected before removing the glass panel.

③



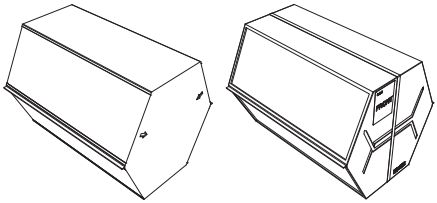
• Remove the front panel by unscrewing the 3 screws at the bottom. Then slide the front panel up so that the hooks on the side are released. Then remove the entire front panel. Make sure that the power cable for the built-in TouchDisplay has been disconnected before removing the front panel!!!

④



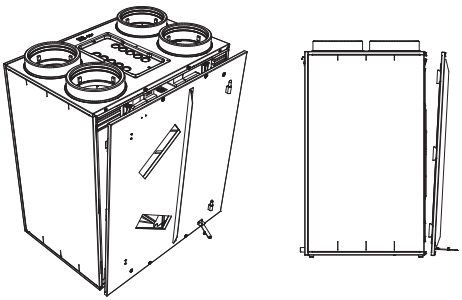
- Remove the heat exchanger from the unit by pulling on the strip.

⑤



- Clean the heat exchanger with warm water (max. 40°C) and washing-up liquid. Do not use any aggressive or solvent-based cleaners! Rinse the heat exchanger well using clean, warm (max. 40°C) water.
- Shake all of the water out of the heat exchanger and let this dry before putting it back in the unit.
- Make sure that you put the heat exchanger back in the exact same position!

⑥



- As soon as the heat exchanger is completely dry, this can be screwed back into the unit and the front panel can be put back again. Then put the filters and the filter caps back.

For the user

10 • Using the app

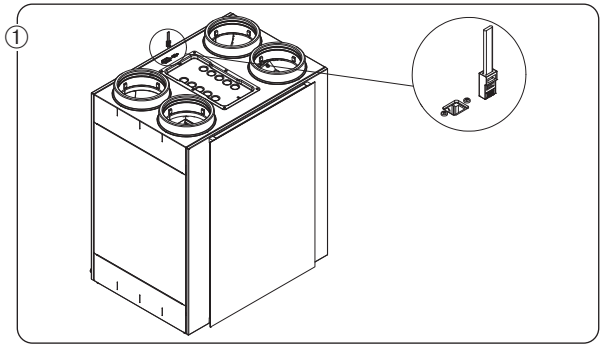
The Endura Delta can be controlled via the Endura Delta app (Android, iOS, and Windows).

10.1 • Opening + configuring the app & unit

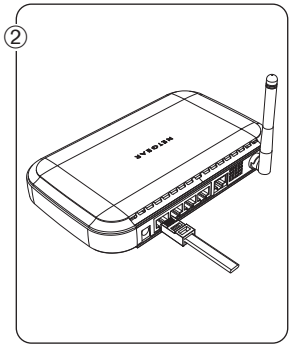
To use the Renson Ventilation app, you must first carry out a few steps to link the Endura Delta to your home network.

10.1.1 • Connecting the Endura® Delta to a Wi-Fi network

Connect the router to the Endura Delta using a category 5 Ethernet cable (RJ45).



- Connect the Ethernet cable to the port on the Endura Delta.



- Connect the other end to an available LAN port on your modem. NOT THE INTERNET WAN PORT.

Plug the router in and turn it on. Check that the Endura Delta is also connected to the mains supply and is enabled. You can now continue with the configuration.

10.1.2 • Installing the app

The Endura Delta app is available for the major mobile platforms (iOS, Android, Windows) allowing you to have immediate access to your personalised Renson controls using any modern smartphone/tablet.

You can download the Endura Delta app from the app store for your operating system.

- Android: Play Store (starting with Android 4)
- iOS: App Store (starting with iOS 7)
- Windows: Windows Store (starting with Windows Mobile 8)

10.1.3 • Configuring the Wi-Fi

The Endura Delta must be connected to the Wi-Fi network in order to operate/configure the Endura Delta using the Renson Ventilation app.

If there is no Wi-Fi connection available on-site, the installer must use his/her own router to start up the Endura Delta. This router can be removed after configuring the ventilation unit. The end customer must add the Endura Delta to his/her own home network himself/herself upon putting it into operation.

Connect the router and go to "Settings" on your smartphone/tablet. In the Wi-Fi connection menu here, find the LAN connection for your router and activate this. Your smartphone/tablet is now successfully connected to the router.

10.1.4 • Opening the app

After your smartphone/tablet is connected to the network (LAN or Wi-Fi), you can open the Renson Ventilation app. The following screen opens: Adding/changing devices.

Your smartphone looks for RENSON units that are in the network.

If the Endura Delta is turned on and connected to the network correctly, then this appears in this menu.

Tick the Endura Delta and then tap "Continue" to add the unit to the network.

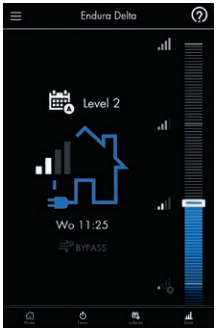
If the unit is not found, tap "Search" again. Ensure that your smartphone is connected to the correct network.

If you are outside of the network's range, the screen above appears. Go somewhere where you are within the network's range and retry the steps above.

Once the Endura Delta has been successfully added to the network, the registration screen opens. Once your unit is registered, RENSON® guarantees:

- Faster assistance in case of a technical problem;
- RENSON® saves the data, installer, and date of installation for you and can always provide you with a copy of this information;

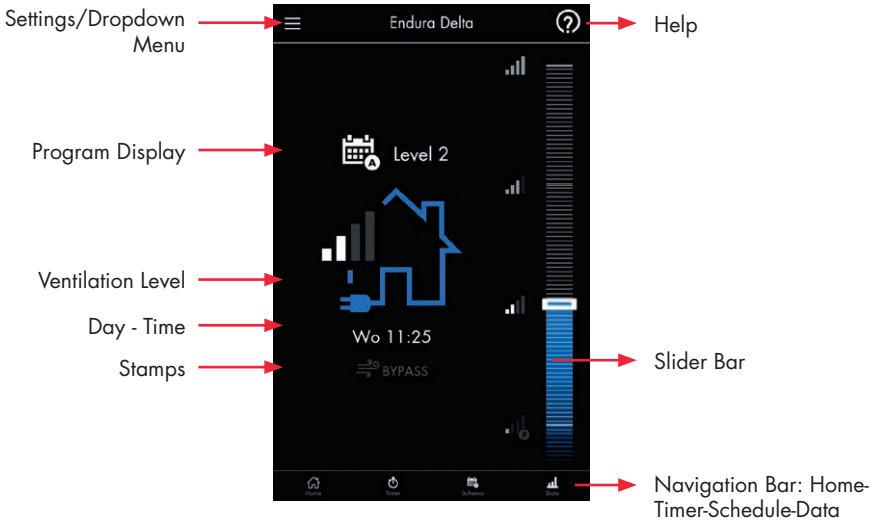
You can choose to register later. The next time you open the Endura Delta app, you will be given the chance to complete the registration.



The main screen opens.

10.2 • Using the Endura® Delta App

The Renson Endura Delta Ventilation app basic screen appears as follows:



The Renson Endura Delta Ventilation app is divided into four user-friendly submenus: Home - Timer - Schedule - Data, which you can select from the Navigation Bar. This is covered fully in this chapter so that you can start using your new app quickly and easily.

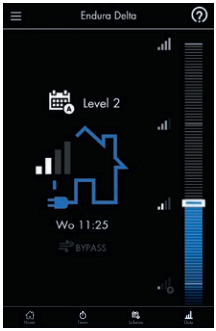
It is also possible to retrieve the above-mentioned menus using the dropdown menu. You will see two additional menus here: Settings - Contact.

You can always consult the Help function while using the app.

10.2.1 • Home

You primarily receive feedback for your system via this interface.

– Program Display:



Displays the current timing for the system.

Indicates that the time has been temporarily exceeded by a sensor value. The system increases to a higher ventilation level due to an increase in humidity, CO_2, or VOC.

This function is only available when combined with the 4-position switch. The system can provide continuous ventilation in this mode based on the ventilation position entered.

The Timer function is activated (Timer - Breeze - Holiday) Time limit specified by the user.

– Ventilation Level:

The number of bars indicates the intensity of the ventilation.

Activation of the Holiday function puts the ventilation system into a minimum ventilation position during long-term absences. This function can be activated using the Timer menu.

The Breeze function provides you with extra ventilation. This function can be activated during the warm summer months to intensively cool the home. This function can be automatically activated, but it can also be manually activated using the Timer menu.

– Settings :

This key grants you access to all of the submenus.

– Help :

A Help file can be retrieved from every menu.

– Messages:

When the Fireplace function is active, more air is supplied than extracted so that the fire burns better and residual smoke is kept to a minimum.

The frost protection is activated when the temperature of the incoming air is too cold. The Frost Protection function keeps the heat exchanger from freezing.

Indicates that the filters must be cleaned or replaced.
These settings can be changed via “Settings > My unit filter”.

The danger sign indicates that a critical error has occurred in your ventilation system. You are advised to contact your installer in this case.

10.2.2 • Timer

You can activate a timer using this menu, which will allow the system to deviate from the pre-programmed ventilation level for a certain amount of time.

You can choose between “Timer mode”, “Manual Breeze” and “Holiday mode”.

Tip: If you drag the slider in the Home menu, you can immediately set a timer.

10.2.2.1 • Timer mode

In the “Timer mode”, you can choose a certain ventilation level for a specific period of time.

- You can do this by selecting the ventilation level with the slider bar and entering the desired time using the arrows and then tapping “Start”.
- When the timer is complete, the system returns to its original program mode.

Note:
As long as the timer is active, the demand side of the Endura Delta remains deactivated. Therefore, the ventilation system will not change the ventilation flow rate while the timer is running based on the measured air quality (relative humidity, VOC or CO_2).

10.2.2.2 • Manual Breeze mode

The manual Breeze mode is used to actively cool down the home during hotter summer days. If you have activated the Breeze function, then you are consciously choosing to activate the Bypass. This means that the supply air will no longer be preheated by the discharged air, and that you will therefore be bringing fresh air from outside into the house.

- To activate this function, select "Time" and swipe to the next tab, where you can make your selection using the slider bar.
- After setting up the timer, tap **"Start"**.

As a rule, the Breeze mode is automatically activated based on the indoor and outdoor temperatures that have been measured (if you set this in the menu "Settings > My Device > Breeze"). However, if you opt to manually activate the Breeze mode, then the Endura Delta will not take any temperature differences into account.

Note:
If you manually activate the Breeze mode, then you must make sure that the outdoor temperature is lower than the indoor temperature. If this is not the case, you will heat up the home instead of cooling it down.

10.2.2.3 • Holiday mode

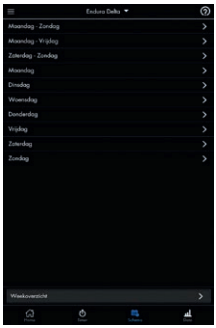
The Holiday mode can be activated when you go on holiday or during periods of long-term absence. If this mode is activated, then the ventilation system will operate during the set period at a minimum ventilation position in order to keep your energy consumption to a minimum.

- To activate this function, select "Time" and swipe to the next tab, where you can make your selection using the slider bar.
- After setting up the date, tap **"Start"**.

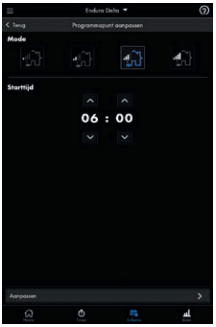
10.2.3 • Schedule

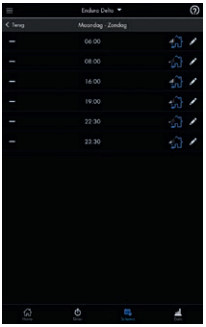
“Program mode”
The ventilation level in the “Program mode” is based on the program point that you configured in the “Schedule” tab. You can then choose for yourself the ventilation level that you desire at which time of the day. There is a total of six programmable program points.

You can choose from four ventilation levels: L1 / L2 / L3 / L4.

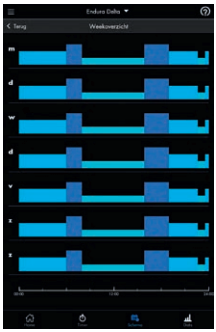


- You can select the day or period in which you want to make changes using this menu.
- The days can be split up into six blocks. Then each block can be allocated a ventilation level. Tap the pencil icon to change the time block and ventilation level.





If you do not want to make use of all of the program points, you can delete these by tapping the minus sign. You can add these back later if desired.



- The weekly overview gives you a complete overview of the changes that have been made. You cannot make any changes in this; it is strictly for information purposes only.

Note:
If the system detects that the relative air humidity, CO_2 or VOC (volatile organic compounds) has been exceeded, then the **"Automatic mode"** takes over control of the Program mode.

10.2.4 • Data

The user can find more information in this menu on how the Endura Delta operates.
The available information:

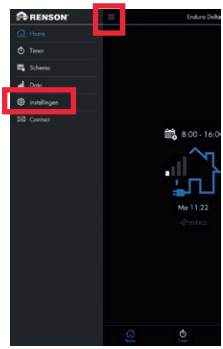
- Active ventilation level
- Total supply flow rate
- Total extraction flow rate
- Time until filter replacement
- Outdoor air temperature
- Indoor air temperature
- Relative humidity level
- Air quality expressed in ppm
  - Green: 400-950 ppm
  - Orange: 950-1,500 ppm
  - Red: > 1,500 ppm
- CO_2 air pollution expressed in ppm
  - Green: 400-950 ppm
  - Orange: 950-1,500 ppm
  - Red: > 1,500 ppm

10.2.5 • Settings

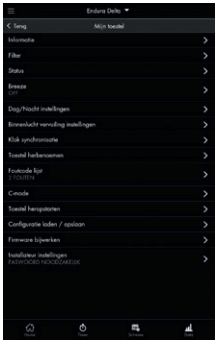
Certain parameters for the Endura Delta can be changed using the Settings menu.

Select "Settings" ☰, then tap ⚙ Settings.

Settings for the unit, the app, or the network can be changed.



10.2.5.1 • My device

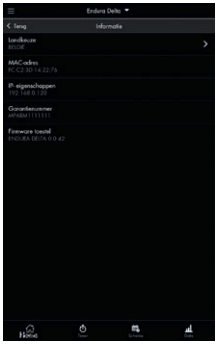


You as a user can also change several parameters with respect to the operation of the Endura Delta in the "My device" menu.

These settings have an impact on your level of comfort with respect to the ventilation system.

The last menu, "installer settings", is intended for the installer and is therefore password-protected. The parameters in the Installer menu can affect the correct operation of your unit. Changes to this by the end user are entirely on your own responsibility.

10.2.5.1.1 • Information



You can find information about the ventilation unit in this menu: country selection, warranty number, and firmware number.

a) Choice of country
You can change the regional settings using this menu. Every country has a specific configuration for the unit based on the applicable ventilation requirements. The configuration for the selected country is loaded.

b) MAC address
You can find the MAC address for your unit here.

c) IP properties
You can find the IP address for your unit that is linked to your home network here.

d) Warranty number
You can find the warranty number for your unit here. You can also find this number on the warranty label in the manual and on the label on the unit itself. You must have this number readily available when you contact our after-sales service or your installer.

e) Unit firmware
This lets you see what kind of firmware is on your unit. You may be asked for this type number when you call our after-sales service.

10.2.5.1.2 • Filter

You can use this menu to reset the filter time, set the filter time, and see how many days are left until you must clean/replace the filters. We recommend cleaning the filters every 90 days and replacing them every 180 days.

a) Reset filter
If you have cleaned/replaced the filters, then the filter timer must be reset so that it can start to count down again.

b) Setting filter messages
You can set the time for the filter timer using this menu. You can choose to get a message every 90, 180, 270, or 360 days when it is time to clean/replace the filters.

c) Remaining time
You can use this menu to see how many days are left until the next filter message.

10.2.5.1.3 • Status

This menu only shows you the status for several elements in the Endura Delta. You cannot change any of the settings in this menu.

a) Supply fan
This menu displays the status for the supply fan. If "Active" is displayed, then the supply fan has been activated. If "Inactive" is displayed, then the supply fan has been deactivated and you must check to see if an error message has appeared in the Error Log (see Section 10.2.5.1.10). Given that the ventilation system may never be turned off, "Active" must always be displayed under normal circumstances.

b) Extraction fan
This menu displays the status for the extraction fan. If "Active" is displayed, then the extraction fan has been activated. If "Inactive" is displayed, then the extraction fan has been deactivated and you must check to see if an error message has appeared in the Error Log (see Section 10.2.5.1.10). Given that the ventilation system may never be turned off, "Active" must always be displayed under normal circumstances.

c) Bypass
This menu shows you the gradual position of the Bypass valve. If the Bypass has not been activated, this is 0%. Given that the Bypass is modularly operated, it can be placed in any position, from 0% to 100%, based on the relationship between the indoor and outdoor temperatures.

d) Frost protection
This menu shows you if the frost protection has been activated (Active) or deactivated (Inactive). The frost protection will start operating when the outdoor temperature drops below freezing and there is a risk that the heat exchanger will freeze up.

For Endura Delta without preheater:
The supply flow rate is gradually decreased so that the portion of warm air supplied is greater than the portion of cold air supplied. This ensures that freezing of the heat exchanger is prevented insofar as is possible. If the supply air is reduced to a minimum and there is still a risk that the heat exchanger could freeze, then the system will go into frost shutdown. In this case, the supply fan is shut down in time and air is only extracted from the home. The system will try to reactivate itself after a certain period of time. However, as long as there is a risk of freezing, the Endura Delta remains in "frost shutdown". As soon as temperatures allow, the unit will return to normal operation automatically.

For Endura Delta with preheater:
If there is a risk that the heat exchanger could freeze, then the preheater is activated. This is an electrical resistance with modular power. Based on the specific need, the power of the preheater is adjusted so that it preheats as efficiently as possible and the energy consumption is kept under control. If there is a preheater available, then an imbalance will never arise between the supply and extraction flow rates. If there is still a risk that the heat exchanger could freeze after the activation of the preheater, then both the supply and extraction flow rates are decreased. This way, balance is maintained. In extreme cases, the system may go into "frost shutdown". In this case, the supply fan is shut down in time and air is only extracted from the home. The system will try to reactivate itself after a certain period of time. However, as long as there is a risk of freezing, the Endura Delta remains in "frost shutdown". As soon as temperatures allow, the unit will return to normal operation automatically.

e) Fireplace function
This menu shows you if the "Fireplace function" has been activated or not. The Fireplace function can only be activated using an external switch that can be connected to the 24 V DC input contact on the main board (see 7.1). When turning on this function, the home is temporarily over-pressurised, so that the fireplace burns easier and more oxygen is temporarily supplied. The time interval for the Fireplace function can be set using the Installer menu. The difference between the supply and extraction flow rates can be set in this Installer menu.

Example: you set a differential flow rate of 50 m³/h. The unit operates balanced at a level of 200 m³/h supply and discharge. Upon activating the Fireplace function, the supply increases to 225 m³/h and the discharge decreases to 175 m³/h, so that the supply gains a difference of 50 m³/h.

10.2.5.1.4 • Breeze

You can activate the automatic “Breeze function” and set the parameters for this function using this menu. The Breeze function is used to actively cool down the home during warm summer months. The Bypass valve closes the heat exchanger so that the supplied air is blown into the home unheated in order to cool the home down.

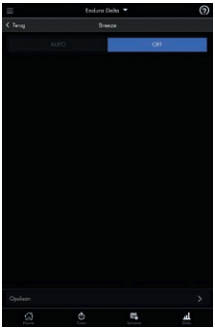
When the Breeze function is active, the following main screen is displayed:

The Breeze function is balanced when the Bypass only differs on a few points:

- The Breeze function can be deactivated, but the Bypass function cannot be deactivated.
- You can choose the ventilation level for when the Breeze function is activated. This ventilation level is always adjusted once the conditions for the Breeze are fulfilled. When the Bypass is active, the heat exchanger is also closed off and the fresh air is blown in unheated, but the actual ventilation level according to the programming control is maintained. Therefore, the ventilation level is not adjusted.
- The Breeze function can also be manually activated using the timer, but the Bypass cannot be manually activated.

The Breeze function is automatically activated if the following conditions are fulfilled:

- For 6 hours out of the past 24 hours, it has been warmer than the Breeze temperature (programmable; is set to 18°C by default; this is the outdoor temperature).
- It is cooler outside than inside.

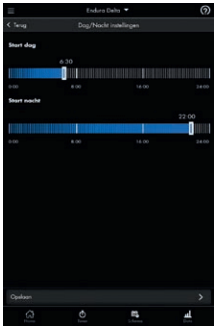


You can choose to activate the Breeze function (AUTO) or deactivate it (OFF).

The Breeze temperature is equal to the outdoor temperature. The Breeze function will only be activated when it is cooler outside than the set ventilation temperature and the temperature has been higher than the Breeze temperature for 6 hours out of the past 24 hours.

You can change the Breeze level to suit you. When the Breeze function is activated (automatically or manually via the timer), then the selected ventilation level is maintained.

10.2.5.1.5 • Day/night settings

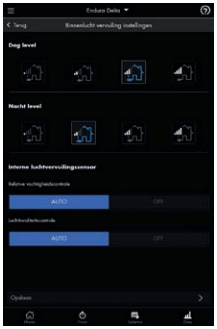


You can change the start time for the day and night periods using this menu. The day and night periods relate to the "pollution ventilation level". If the Endura Delta is in automatic mode, then the system is demand-controlled.

A humidity and air quality sensor are built into the Endura Delta as standard. If these sensors detect a disruption in the air conditions (e.g. you take a shower and the humidity rises), then the "pollution triggered ventilation level" is activated. This ventilation level is maintained until the quality of the air is back under control. The "pollution triggered ventilation level" can have varying levels of intensity during the day or night periods.

Use this menu to define the start and end time for the day and night periods. Use the Indoor Air Pollution menu to define the intensity of the ventilation for the day and night periods.

10.2.5.1.6 • Indoor air pollution settings



You can use this menu to set a different ventilation level for the demand side, for both the day and night periods.

In addition, you can also activate the internal humidity control and the air quality control (AUTO) or deactivate it (OFF).

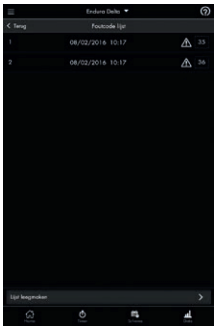
10.2.5.1.7 • Clock synchronisation

You can synchronise the Endura Delta clock with the clock on your smartphone using this menu. This is necessary for the correct implementation of the programming control.

10.2.5.1.8 • Rename device

You can name your unit whatever you like using this menu.

10.2.5.1.9 • Error code list



You can see which error messages have occurred using this menu. Every error message is indicated by a code and is linked to the time at which the error occurred. By tapping the error code in the app, an initial explanation opens and then solutions are proposed. You can read Chapter 11 for the exact meanings of the error messages.

You can delete the error message list. The unit is restarted and you will probably have to repair the link.

10.2.5.1.10 • C-mode

You can activate the "C-mode" (design position) using this menu. If the C-mode is active, then the Endura Delta will nominally ventilate for 30 minutes. You can calibrate the system during this half hour by adjusting the supply and extraction valves. The flow rates must be verified when the C-mode is activated.

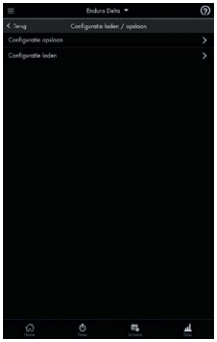
As long as the C-mode is active, the following main screen is displayed:

You can interrupt the C-mode by clicking the X next to the timer.

10.2.5.1.11 • Restarting the unit

"Restart device" is not the same as "reset device" (see 10.2.5.1.14). "Restart" means that only the unit is restarted. No settings will be deleted. "Reset device" means that all of the settings are deleted and the default factory settings will be restored.

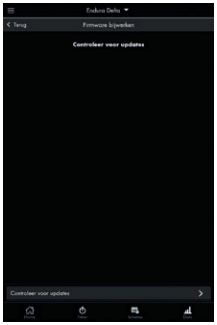
10.2.5.1.12 • Load/save a configuration



You can save the current settings for your unit using this menu as well as reload them later. If you choose to save a configuration, this file will be listed chronologically.

If you want to upload a saved configuration to the unit, tap the arrow symbol.

10.2.5.1.13 • Edit the firmware

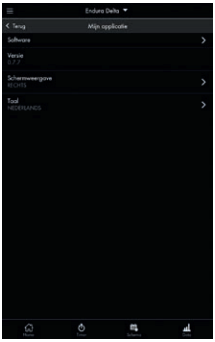


You can use this menu to check if recent updates are available for your ventilation unit. If there is an update available, then we recommend that you run this. This way, you always have the most recent version of the firmware on your system.

10.2.5.1.14 • Installer settings

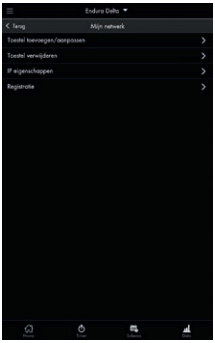
The last menu, “installer settings”, is intended for the installer and is therefore password-protected. The parameters in the Installer menu can affect the correct operation of your unit. Changes to this by the end user are entirely on your own responsibility.

10.2.5.2 • My app



You can change some of the settings for the Endura Delta app itself using this menu. For example, you can check to see if a new software version of the app is available, you can see which software version is currently installed, you can change the screen settings, and you can change the language of the app.

10.2.5.3 • My network



You can add a new unit or remove the currently connected unit, change the IP properties, and carry out the registration using this menu.

a) Add/change devices
You can choose which unit you want to link into the network using this menu. Normally, there will only be one unit in your network.

b) Delete devices
You can delete a unit from your network using this menu. The link is interrupted and you must make a new link.

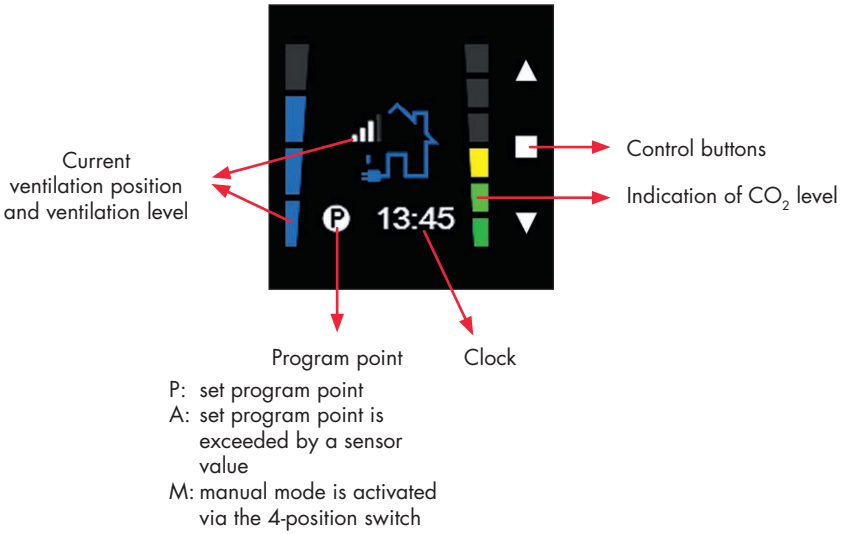
c) IP properties
You can choose to link your home network and the Endura Delta via a static IP address or a DHCP address using this menu.

d) Registration
If you chose to complete the registration later after opening the Endura Delta app, then you can complete and send the registration using this menu.

11 • Using the TouchDisplay

11.1 • Main menu

11.1.1 • Main menu layout



P: set program point
A: set program point is exceeded by a sensor value
M: manual mode is activated via the 4-position switch


Frost Protection is active


Fireplace function is active


Error message


The request for changing the ventilation level becomes visible using an arrow at the top of the screen. The arrow will disappear when the desired ventilation level has been reached.


Breeze/Bypass active

11.1.2 • Main menu basic functions

As standard, the Endura Delta can be controlled using two ventilation modes: an **automatic mode** and a **timer mode**.

- The ventilation level in the **automatic mode** is based on the program points that you can configure via "User menu > Schedule" (see Section 8.1.3.2). You can then choose for yourself the ventilation level that you desire at which time of the day. You can choose from four ventilation levels: L1 / L2 / L3 / L4

Level 1

Level 2

Level 3

Level 4

E.g. from 08:00 to 12:00 Level 1; from 12:00 to 13:00 Level 3; from 13:00 to 17:00 Level 1; from 17:00 to 19:30 Level 3; from 19:30 to 22:00 Level 2; from 22:00 to 08:00 Level 1

- In the **"Timer mode"**, you can choose a fixed ventilation level for a period of 30 minutes. You can do this by using the ▲ or ▼ in the Main menu to increase or decrease the ventilation level. A timer will start. For 30 minutes, the ventilation system will ventilate at the ventilation level that you selected. The manual mode is therefore used to temporarily change the ventilation level.

By tapping ▲ in the main screen, you can temporarily move from Level 1 (automatic mode) to Level 2 (manual mode).

A timer symbol appears.

The remaining time is displayed on the timer.

After the timer has ended, the unit switches back to automatic mode.

You can deactivate the time by tapping ■ for 3 seconds or by briefly tapping ▲ and ▼ simultaneously.

Note:
As long as the timer is active, the demand side of the Endura Delta remains deactivated. Therefore, the ventilation system will not change the ventilation flow rate while the timer is running based on the measured air quality (relative humidity, VOC or CO_2).

Manual mode

- If you have chosen to control the Endura Delta with an XVK 4-position switch, you can place the unit in manual mode permanently. In this case, you choose to always ventilate at the same ventilation level (auto, L2, L3 or L4). The LED for the active ventilation level lights up on the XVK 4-position switch.

An M is displayed at the bottom left of the TouchDisplay as long as the manual mode is active on the XVK 4-position switch.

You can return to the automatic mode by pushing the XVK 4-position switch to AUTO.

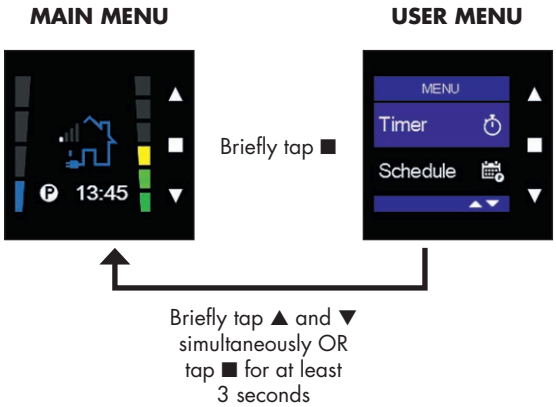
Note:
The Endura Delta demand-control (RH & VOC) is only active in automatic mode. In the "Manual mode", you can choose a fixed ventilation level for a specific period of time. This manual mode does not take the sensor values into account; therefore, the ventilation flow rate will not be adjusted in case of an increase in the relative humidity or VOC.

11.1.3 • User menu

The User menu is used to activate the timer, configure your program points, view the data on how your unit is operating, change the settings for your unit, etc.

You can open the User menu by briefly tapping ■.

To return to the Main menu, briefly tap ▲ and ▼ simultaneously, or tap ■ for 3 seconds.



The Main Controller User menu is different from that for a Sensor Controller. The latter has fewer functions. Below is a diagram of the menu structure:

Main controller

- Timer
- Schedule
- Data
- Settings
  - My Device
    - Device Information
    - Filter
    - Status
    - Breeze
    - Day/Night Settings
    - Pollution Settings
    - Clock Settings
    - Error Log
    - C-mode
    - Restart Device
    - Installer Settings
  - My Controller
    - Controller Information
    - Connect Sensor
    - Display Settings
    - CO_2 treshold
    - Reset Controller
    - My Device

Sensor controller

- Timer
- Settings
  - My Device
    - Device Information
  - My Controller
    - Controller Information
    - Connect Sensor
    - Display Settings
    - RF Repeater
    - CO_2 treshold
    - Reset Controller
    - RF Information

11.1.3.1 • Timer

The "Timer" menu is used to let the ventilation system ventilate at a fixed ventilation level for a period of time that you have chosen. E.g., during a party, you set the system at maximum capacity (L4) for 15 minutes to quickly refresh the air in your home.

Select the "Timer" menu and briefly tap ■.
You can select the time level and duration, as well as start the timer using this menu.

You can change the timer level by first briefly tapping ■. Use ▲ and ▼ to select a timer level, and confirm your choice by tapping ■.
As soon as you start the timer, the ventilation system will start ventilating at the selected level.

You can choose between level 1 (min.), level 2, level 3, level 4 (max.), Holiday, and Breeze (see below in this section).

You can set the time intervals for the timer in the "duration" by first briefly tapping ■ and then using ▲ and ▼ to change the time in 5-minute intervals. The maximum time for a timer is 8 hours. The minimum time is 5 minutes.

Confirm by tapping ■.

Once you have set the timer level and the duration, you can start the timer by tapping ■ in the "Start Timer" bar.

If the timer is active, this is indicated by a stopwatch in the Main menu. In addition, the remaining time is displayed on the timer.

To stop the timer early, briefly tap ▲ and ▼ simultaneously.

You can also activate a timer by tapping ▲ or ▼ in the Main menu and selecting a specific ventilation level that deviates from the actual program control. A 30-minute timer is automatically started.

You can also set the Holiday and Breeze modes in the "Timer level" bar:

Holiday

The Holiday mode can be activated when you go on holiday or during periods of long-term absence. If this mode is activated, then the ventilation system will operate during the set period at a minimum ventilation position in order to keep your energy consumption to a minimum.

Select "Holiday" using ▲ and ▼ in the Timer menu, and confirm by tapping ■. The "Return Date" bar appears under "Holiday".

Enter the date on which you will be returning from holiday in the "Return Date" bar. The ventilation system will return to its normal program control on this day. It will continue to ventilate at a minimum position throughout the period you are away.

Select the date using ▲ and ▼, and confirm by tapping ■.

Activate the timer by tapping ■ in the "Start Timer" bar.

If the Holiday mode is active, this is indicated by a house with a suitcase in the Main menu. In addition, the remaining time until your return is displayed.

Manual Breeze mode

The manual Breeze mode is used to actively cool down the home during the summer. If you have activated the Breeze function, then you are consciously choosing to activate the Endura Delta Bypass. This means that the supply air will no longer be preheated by the discharged air, and that you will therefore be bringing fresh air from outside into the house.

Normally, the Breeze mode is activated automatically (if you set this in the menu: "Settings > My device > Breeze) based on the indoor and outdoor temperatures that were measured. However, if you choose to manually activate the Breeze mode in the Timer menu, then the Endura Delta will not take the indoor and outdoor temperatures into account and the Bypass will be activated manually.

Note:
If you manually activate the Breeze mode, then you must make sure that the outdoor temperature is lower than the indoor temperature. If this is not the case, you will continue to heat the home instead of cooling it.

The Breeze level is set at Level 3 by default. You can change this in the menu "Settings > My device > Breeze > Breeze level". You can choose between level 1, 2, 3 and 4.

Select "Breeze" using ▲ and ▼ in the Timer menu, and confirm by tapping ■.

You can set the time intervals for the timer in the "duration" by first briefly tapping ■ and then using ▲ and ▼ to change the time in 5-minute intervals. The maximum time for a timer is 8 hours. The minimum time is 5 minutes.

Confirm by tapping ■.

The main screen will now display a house with wind blowing to indicate that the Breeze timer is activated. In addition, the remaining time is displayed at the bottom of the timer.

After the timer has ended, the ventilation level is changed back to the program control or the manually selected level (if XVK 4-position switch).

You can interrupt the Breeze function by tapping any button.

11.1.3.2 • Schedule

The "Schedule" menu is used to set a program control. You can determine the intensity in this regard for different periods of the day, per work week, or per full week. This menu is only available from the Main Controller.

Select "Schedule" in the USER MENU, and confirm by tapping ■.

Use ▲ and ▼ to select from the different weekly programs, and confirm by tapping ■.

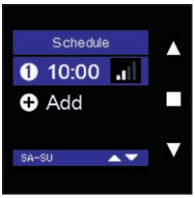
You can choose to set a program per week (MO-SU), per work week (MO-FRI), per weekend (SA-SU) or individually per day (MON, TUE, WED, THU, FRI, SAT, SUN).

Set the first program point by briefly tapping ■.

The **hour indicator** lights up. Use ▲ and ▼ to set the desired hour. Confirm by tapping ■.

The **minute indicator** lights up.

Use ▲ and ▼ to set the desired minutes. Confirm by tapping ■.



The ventilation level lights up.

Use ▲ and ▼ to set the ventilation level for this program point. Confirm by tapping ■. The program point is now set and saved.

Tap ▼ to add the following program point. “Add” lights up. Confirm by tapping ■ to add a new program point.

Repeat the above steps as described to set the hour and ventilation level.

Note:
A maximum of 6 program points can be set per day.

To change programmed program points, use ▲ and ▼ to select the program point to be changed in the “Schedule” menu and tap ■.

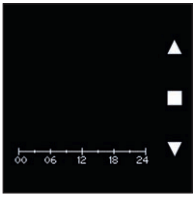
“Edit” lights up. Tap ■ again to change the settings, and confirm this again by tapping ■ to save the changes.

To delete programmed program points, use ▲ and ▼ to select the program point to be deleted in the “Schedule” menu and tap ■.

“Edit” lights up. Use ▲ or ▼ to navigate to “Remove” and tap ■ once more to delete the program point.

You can set a new program point by tapping “Add” again.

You can always retrieve the set program points by going to the User menu - Schedule, and then tapping ■, ▲ and ▼ simultaneously (> 3 seconds).



An overview opens displaying the programmed ventilation levels throughout the week that you selected.

You can close the overview by briefly tapping one of the buttons.

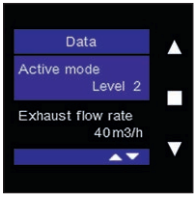
To close the "Schedule" User menu, tap ■ for at least 3 seconds or briefly tap ▲ and ▼.

11.1.3.3 • Data

You can request current information on the Endura Delta operation using the "Data" menu. You can see which mode is active, the total supply and extraction flow rates, outdoor and indoor temperature, relative humidity level, indoor air quality (VOC), and when the filter must be replaced. This menu is only available from the Main Controller.

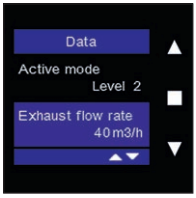
Select "Data" in the USER MENU, and confirm by tapping ■.

11.1.3.3.1 • Active mode



The active ventilation level (L1-L4) is displayed in this bar.

11.1.3.3.2 • Exhaust flow rate



The total exhaust flow rate for the home is displayed in this bar. This is the sum of all the extraction flow rates in your home (all wet rooms). Given that the Endura Delta is a balanced system, the total extraction flow rate is always equal to the total supply flow rate (deviations are possible here when the Fireplace function is active).

11.1.3.3.3 • Supply flow rate

The total supply flow rate for the home is displayed in this bar. This is the sum of all the supply flow rates in your home (all dry rooms). Given that the Endura Delta is a balanced system, the total extraction flow rate is always equal to the total supply flow rate (deviations are possible here when the Fireplace function is active).

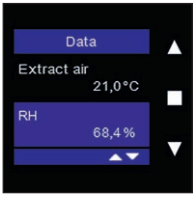
11.1.3.3.4 • Outdoor air temperature

This bar displays the temperature of the outdoor air that is being blown into the home. This is the temperature of the outdoor air before it is heated in the heat exchanger.

11.1.3.3.5 • Extract air temperature

This bar displays the temperature of the indoor air that is extracted from the home. The heat in this air is transferred to the incoming fresh air in the heat exchanger.

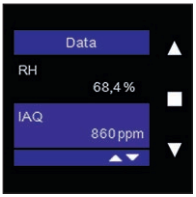
11.1.3.3.6 • Relative humidity level



This bar displays the relative humidity level of the extraction air. Under normal circumstances, the relative humidity in a home is between 30% and 55% in the winter and between 30% and 80% in the summer.

You will see the relative humidity increase temporarily when taking a shower, bath, or intensive cooking.

11.1.3.3.7 • Indoor Air Quality



This bar displays the indoor air quality (VOC), expressed in ppm (particles per million); the air quality is good when this is between 400 and 950 ppm. The air quality is acceptable when this is between 950 and 1,500, but we recommend additional ventilation in this case. Anything above 1,500 ppm is unhealthy.

You can set the "pollution triggered level" yourself (see Section 8.1.3.4.1.6). This is a ventilation level that is activated when the indoor air quality has exceeded a certain threshold (this is 1,000 ppm by default). Your ventilation system will then temporarily ventilate at a higher level to get the air quality back under control.

11.1.3.3.8 • Filter

This bar displays the remaining number of days until you must clean/ replace the filters.

11.1.3.4 • Settings

You as a user can change the basic settings for the unit and the controller in the glass panel or any additional controllers using the "Settings" menu. This menu is available from the Main and Sensor Controllers.

Select "Settings" in the USER MENU, and confirm by tapping ■.

11.1.3.4.1 • My device

You can use this menu to change the settings for the ventilation unit: view information about the unit, set the filter settings, status, Breeze function, set the clock, view the error list, start the C-mode (design position), and restart the unit.

Select "My Device" using ▲ and ▼, and confirm by tapping ■.

11.1.3.4.1.1 • Device Information

You can find information about the ventilation unit in this menu: country selection, warranty number, and firmware number. This is the only menu under "My device" on a Sensor Controller. You can find other menus under this in the Main Controller (as described below).

a) Region

You can change the regional settings using this menu. Every country has a specific configuration for the unit based on the applicable ventilation requirements.

Briefly tap ■. The country selection lights up. Change the country using ▲ and ▼. Confirm your choice by tapping ■.

The configuration for the selected country is loaded. To exit the menu, briefly tap ▲ and ▼ simultaneously.

b) Warranty number

You can find the warranty number for your unit here. You can also find this number on the warranty label in the manual and on the label on the unit itself.

You must have this number readily available when you contact our after-sales service or your installer.

To exit the menu, briefly tap ▲ and ▼ simultaneously.

c) Firmware

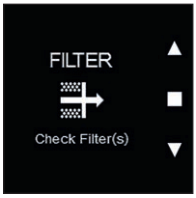
This lets you see what kind of firmware is on your unit.

You may be asked for this type number when you call our after-sales service.

To exit the menu, briefly tap ▲ and ▼ simultaneously.

11.1.3.4.1.2 • Filter

You can use this menu to reset the filter time, set the filter time, and see how many days are left until you must clean/replace the filters. We recommend cleaning the filters every 90 days and replacing them every 180 days.

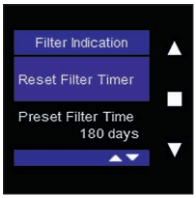


This screen appears on the main screen when the filters need to be cleaned/replaced.

Tap any button to delete the message.

Select “Filter” using ▲ and ▼, and confirm by tapping ■.

a) Reset Filter Timer

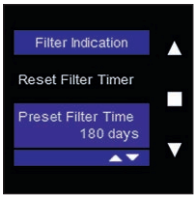


If you tap ■, then the filter timer is deleted and the timer starts over again.

Do not forget to reset the filter timer after replacing the filters. This way, you are certain that you will be notified on time when the filters need to be cleaned/replaced again.

To exit the menu, briefly tap ▲ and ▼ simultaneously.

b) Preset Filter Time



You can set the time for the filter timer using this menu. You can choose to get a message every 90, 180, 270, or 360 days when it is time to clean/replace the filters.

To exit the menu, briefly tap ▲ and ▼ simultaneously.

c) Filter Remaining Time

You can use this menu to see how many days are left until the next filter message.

To exit the menu, briefly tap ▲ and ▼ simultaneously.

11.1.3.4.1.3 • Status

This menu only shows you the status for several elements in the Endura Delta. You cannot change any of the settings in this menu.

a) Supply Fan

This menu displays the status for the supply fan. If "Active" is displayed, then the supply fan has been activated. If "Inactive" is displayed, then the supply fan has been deactivated and you must check to see if an error message has appeared in the Error Log (see Section 8.1.3.4.1.8).

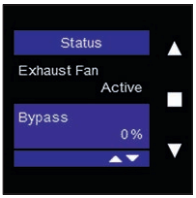
Given that the ventilation system may never be turned off, "Active" must always be displayed under normal circumstances.

b) Exhaust Fan

This menu displays the status for the extraction fan. If "Active" is displayed, then the extraction fan has been activated. If "Inactive" is displayed, then the exhaust fan has been deactivated and you must check to see if an error message has appeared in the Error Log (see Section 8.1.3.4.1.8).

Given that the ventilation system may never be turned off, "Active" must always be displayed under normal circumstances.

c) Bypass



This menu shows you the gradual position of the Bypass valve. If the Bypass has not been activated, this is 0%. Given that the Bypass is modularly operated, it can be placed in any position, from 0% to 100%, based on the relationship between the indoor and outdoor temperatures.

d) Frost Protection

This menu shows you if the frost protection has been activated (Active) or deactivated (Inactive). The frost protection will start operating when the outdoor temperature drops below freezing and there is a risk that the heat exchanger will freeze up.

For Endura Delta without preheater:
The supply flow rate is gradually decreased so that the portion of warm air supplied is greater than the portion of cold air supplied. This ensures that freezing of the heat exchanger is prevented insofar as is possible.

If the supply air is reduced to a minimum and there is still a risk that the heat exchanger could freeze, then the system will go into frost shutdown. In this case, the supply fan is shut down in time and air is only extracted from the home. The system will try to reactivate itself after a certain period of time. However, as long as there is a risk of freezing, the Endura Delta remains in “frost shutdown”. As soon as temperatures allow, the unit will return to normal operation automatically.

For Endura Delta with preheater:
If there is a risk that the heat exchanger could freeze, then the preheater is activated. This is an electrical resistance with modular power. Based on the specific need, the power of the preheater is adjusted so that it preheats as efficiently as possible and the energy consumption is kept under control.

If there is a preheater available, then an imbalance will never arise between the supply and extraction flow rates. If there is still a risk that the heat exchanger could freeze after the activation of the preheater, then both the supply and extraction flow rates are decreased. This way, balance is maintained.

In extreme cases, the system may go into “frost shutdown”. In this case, the supply fan is shut down in time and air is only extracted from the home. The system will try to reactivate itself after a certain period of time. However, as long as there is a risk of freezing, the Endura Delta remains in “frost shutdown”. As soon as temperatures allow, the unit automatically returns to normal operation.

e) Fireplace Protection

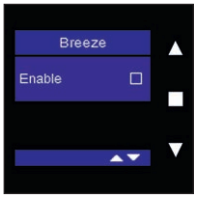
This menu shows you if the "Fireplace function" has been activated or not. The Fireplace function can only be activated using an external switch that can be connected to the 24 V DC input contact on the main board (see 7.1).

When turning on this function, the home is temporarily over-pressurised, so that the fireplace burns easier and more oxygen is temporarily supplied.

The time interval for the Fireplace function can be set using the Installer menu (Installer menu > Fire place function; see 8.1.3.4.1.11). The difference between the supply and extraction flow rates can be set in this Installer menu.

Example: you set a differential flow rate of 50 m³/h. The unit operates balanced at a level of 200 m³/h supply and discharge. Upon activating the Fireplace function, the supply increases to 225 m³/h and the discharge decreases to 175 m³/h, so that the supply gains a difference of 50 m³/h.

11.1.3.4.1.4 • Breeze



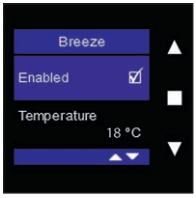
You can activate the automatic "Breeze function" and set the parameters for this function using this menu. The Breeze function is used to actively cool down the home during warm summer months. The Bypass valve closes the heat exchanger so that the supplied air is blown into the home unheated in order to cool the home down.

When the Breeze function is active, the following main screen is displayed:

The Breeze function is balanced when the Bypass only differs on a few points:
- The Breeze function can be deactivated, but the Bypass function cannot be.
- You can choose the ventilation level for when the Breeze function is activated. This ventilation level is always adjusted once the conditions for the Breeze are fulfilled. When the Bypass is active, the heat exchanger is also closed off and the fresh air is blown in unheated, but the

actual ventilation level according to the programming control is maintained. Therefore, the ventilation level is not adjusted.
– The Breeze function can also be manually activated using the timer, but the Bypass cannot be.

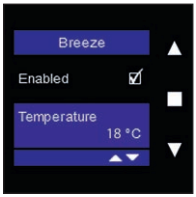
The Breeze function is automatically activated if the following conditions are fulfilled:
– For 6 hours out of the past 24 hours, it has been warmer than the Breeze temperature (programmable; is set to 18°C by default; this is the outdoor temperature).
– It is cooler outside than inside.



Tap ■ to enable the automatic Breeze function.

The parameter settings appear. You can then set the Breeze temperature and the Breeze level.

To exit the menu, briefly tap ▲ and ▼ simultaneously.



Select “Temperature” using ■ and change the temperature using ▲ and ▼. Confirm your choice by tapping ■.

The Breeze temperature is equal to the outdoor temperature. The Breeze function will only be activated when it is cooler outside than the set outdoor temperature and it has been warmer than the Breeze temperature for 6 hours out of the past 24 hours.

Select “Breeze level” using ■ and change the level using ▲ and ▼. Confirm your choice by tapping ■.

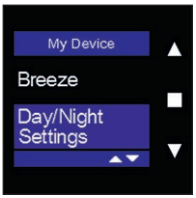
Once the conditions for the “Breeze” are fulfilled, then this selected level will be activated.

11.1.3.4.1.5 • Day/Night settings

You can change the start time for the day and night periods using this menu. The day and night periods relate to the "pollution ventilation level". If the Endura Delta is in automatic mode (see 8.1.2.2), then the system is also demand-controlled.

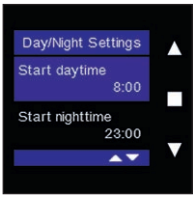
A humidity and VOC sensor are built into the Endura Delta as standard. If these sensors detect a disruption in the air conditions (e.g. you take a shower and the humidity rises), then the "pollution triggered ventilation level" is activated. This ventilation level is maintained until the quality of the air is back under control.

You can set the intensity of this "pollution triggered ventilation level" yourself for both the day and night periods. If you want to set the day and night periods, you must follow the steps described below:

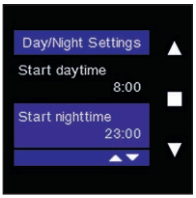


Select "Day/night settings" in the "My device" menu, and confirm by tapping ■.

To exit the menu, briefly tap ▲ and ▼ simultaneously.



Select "Start daytime" by tapping ■ and change the time using ▲ and ▼. Confirm the start hour with ■.



Select "Start nighttime" by tapping ■ and change the time using ▲ and ▼. Confirm the start hour with ■.

11.1.3.4.1.6 • Pollution settings

You can use this menu to set a different ventilation level for the demand side, for both the day and night periods. You can also activate or deactivate the internal and external sensors using this menu.

Daytime Level

Select "Daytime Level" using ▲ and ▼, and confirm by tapping ■. You can now use ▲ and ▼ to change the ventilation level for the demand side for the day period. Confirm your choice by tapping ■.

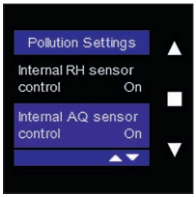
Nighttime Level

Select "Nighttime Level" using ▲ and ▼, and confirm by tapping ■. You can now use ▲ and ▼ to change the ventilation level for the demand side for the night period. Confirm your choice by tapping ■.

Internal RH sensor control

Select the internal RH sensor control using ▲ and ▼, and confirm by tapping ■. You can now use ▲ and ▼ to turn the Endura Delta internal humidity sensor ON or OFF. The humidity sensor is activated as standard, and the Endura Delta will therefore ventilate according to the "pollution triggered ventilation level" if there is an increase in the air humidity (see Daytime Level above).

Internal AQ sensor control



Select the internal AQ sensor control (air quality sensor = VOC sensor) using ▲ and ▼, and confirm by tapping ■. You can now use ▲ and ▼ to turn the Endura Delta internal air quality sensor ON or OFF. The air quality sensor is activated as standard, and the Endura Delta will therefore ventilate according to the "pollution triggered ventilation level" if there is an increase in VOC (volatile organic compounds) (see Daytime Level above).

External AQ sensor control (only on the Master TouchDisplay)

This function is only available from the Master TouchDisplay. If you choose to deactivate the "external AQ sensor control", then you are also deactivating all of the external air quality sensors linked to this in your home, and therefore, the Endura Delta will no longer respond to anything that these sensors may detect.

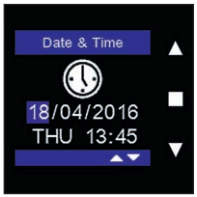
Select the external AQ sensor control using ▲ and ▼, and confirm by tapping ■. You can now use ▲ and ▼ to turn the Endura Delta external air quality sensors ON or OFF.

11.1.3.4.1.7 • Clock Settings

You can change the unit's time and date settings using this menu.

Select "Clock Settings" using ▲ and ▼, and confirm by tapping ■.

To exit the menu, briefly tap ▲ and ▼ simultaneously.



Change the date/hour using ▲ and ▼, and confirm by tapping ■.

11.1.3.4.1.8 • Error Log

You can see which error messages have occurred using this menu. An error message is indicated on the main display by an exclamation point in a red triangle. Every error message is indicated by a code and is linked to the time at which the error occurred. You can read Chapter 11 for the exact meanings of the error messages.

Select “Error Log” using ▲ and ▼, and confirm by tapping ■.

To exit the menu, briefly tap ▲ and ▼ simultaneously.

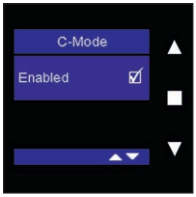
You can delete the old error messages by tapping “Clear”.
Tap ■ to clear the list and restart the unit.

11.1.3.4.1.9 • C-Mode

You can activate the “C-mode” (design position) using this menu. If the C-mode is active, then the Endura Delta nominally ventilates for 30 minutes. You can calibrate the system during this half hour by adjusting the supply and extraction valves. The flow rates must be verified when the C mode is activated.

Select “C-mode” using ▲ and ▼, and confirm by tapping ■.

To exit the menu, briefly tap ▲ and ▼ simultaneously.



Activate the C-mode by tapping ■. A 30-minute timer is started, and the Endura Delta nominally ventilates during this period.

The C-mode is displayed with the following screen in the Main menu. The Timer ends after 30 minutes. If you want to interrupt the C-mode early, then briefly tap ▲ and ▼ simultaneously. The Endura Delta will then return to the automatic mode.

11.1.3.4.1.10 • Restart Device

Select "Restart Device" using ▲ and ▼ and confirm by tapping ■.

Use ▼ to select "OK" in order to restart the Endura Delta. Confirm by tapping ■. The unit is now restarted.

"Restart device" is not the same as "reset device" (see 8.1.3.4.1.11). "Restart" means that only the unit is restarted. No settings will be deleted. "Reset device" means that all of the settings are deleted and the default factory settings will be restored.

12 • Maintenance

Always ensure that the unit is turned off and unplugged before starting to service it for maintenance. Do this by unplugging the power cable from the wall socket or by switching off the fuse Be sure to measure if the unit is actually turned off and unplugged.

It is recommended to regularly clean and/or replace the filters based on how dirty they get. Replace the filters every 6 months and clean them every 2 to 3 months.

You will get a filter message on the unit, controller, and smartphone to help you remember to service the filters for maintenance.

12.1 • Filter message

12.1.1 • App + TouchDisplay

You can change the settings for the filters on the RENSON Ventilation app and the TouchDisplay yourself via: Settings > My device > Filter. In order to access the menu on the TouchDisplay, see Section 11.1.3.4.1.2.

- Use the "Reset Filter" function after you have cleaned/replaced the filters. The time interval for the filter time is then restarted. After this time interval ends, you will receive another message stating that you need to clean/replace the filters.

- You can set the time interval (expressed in days) at which you want to clean/replace your filters yourself using the "Set Filter Time" function. We recommend cleaning the filters at least every 3 months and replacing them at least every 6 months.

- The "Time Remaining" function displays how many days are left until the next filter message.

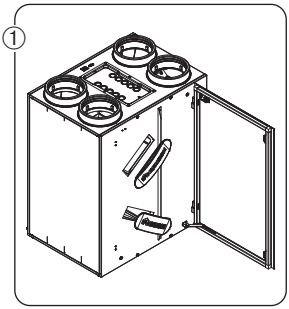
12.1.2 • XVK 4-position switch

When using a XVK 4-position switch, you will receive a visual reminder when you need to clean/replace the filters. The two upper LEDs on the controller will flash slowly. After cleaning/ replacing the filters, tap the ventilation mode that you wish to reactivate and the filter message will disappear.

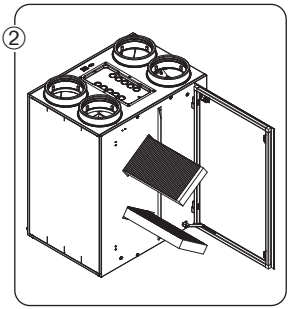
You can change the filter time using the built-in TouchDisplay in the Endura Delta glass panel according to the steps described in Section 12.1.1.

12.2 • Cleaning/replacing filters

Make sure that the unit is turned off and unplugged before removing the filters!

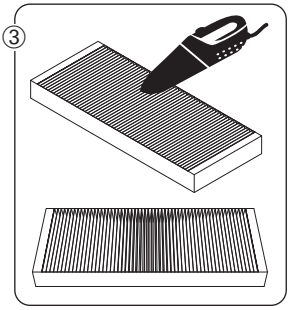
① 

- Open the door and remove the filter caps.

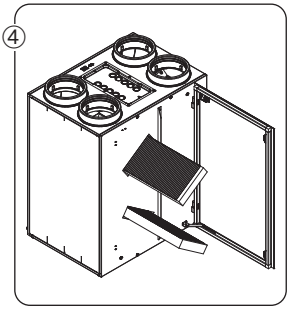
② 

- Before removing the filters from the openings, be sure to clearly mark which filter was on top and which filter was on bottom, and in which direction they are placed, so that it is easy to return them to the correct position after cleaning.

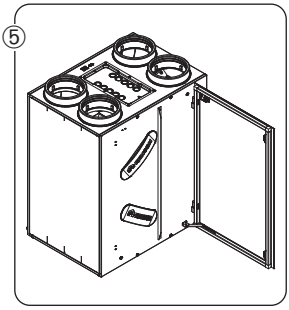
Note:
– If you use 2 G4 filters, mark their positions and direction, and return them to the correct position after cleaning.
– If you combine an F7 and G4 filter, then you must always place the F7 filter underneath and the G4 filter on top! Mark the positions in which they were placed and return them to the correct position after cleaning.

③ 

- Clean the filters using a vacuum. If you regularly vacuum the filters, the filters could show signs of wear and tear. In this case, replace the filter in order to continue to guarantee the correct operation of the system.

④ 

- Place the filters back in the same position they were in before they were removed from the unit.

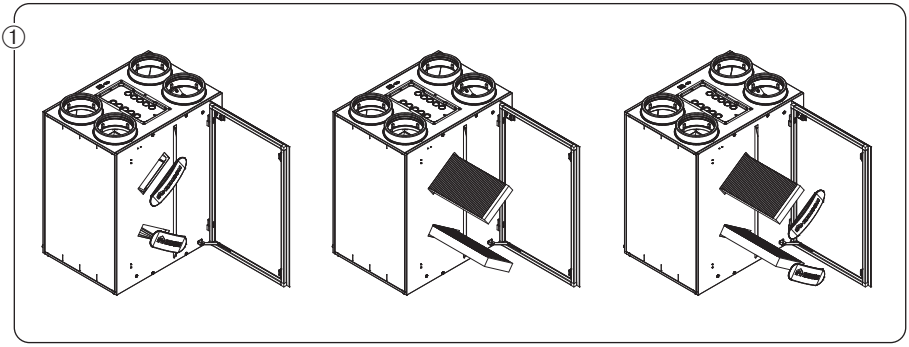
⑤ 

- Close the filters using the filter caps. Make sure that the filter caps are put back into the correct position to ensure the airtightness of the unit.

Restart the unit by turning the power back on. Carry out a “filter reset” on the controls (TouchDisplay/App/XVK 4-position switch).

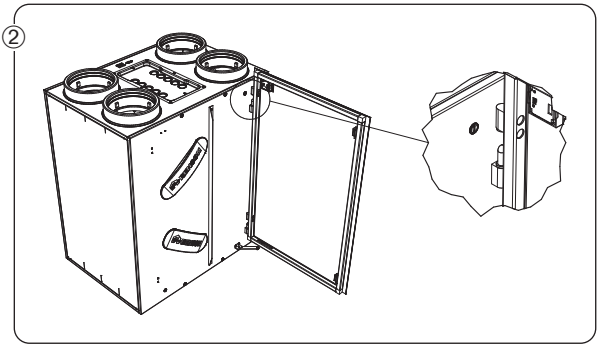
12.3 • Cleaning the heat exchanger

①



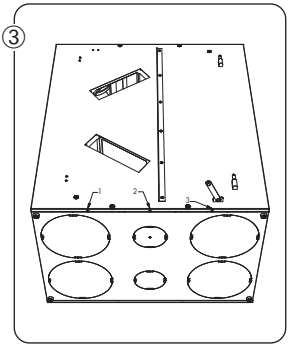
• Remove the filter caps and the filters.

②



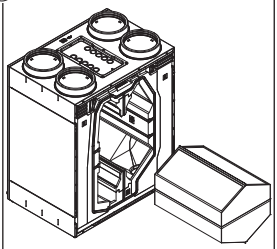
• Then remove the glass panel (only for types 380 and 450) by lifting it out of the hinges. Make sure that the power cable for the built-in TouchDisplay has been disconnected before removing the glass panel.

③



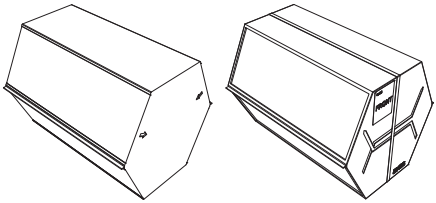
• Remove the front panel by unscrewing the 3 screws at the bottom. Then slide the front panel up so that the hooks on the side are released. Then remove the entire front panel. Make sure that the power cable for the built-in TouchDisplay has been disconnected before removing the front panel!!!

④



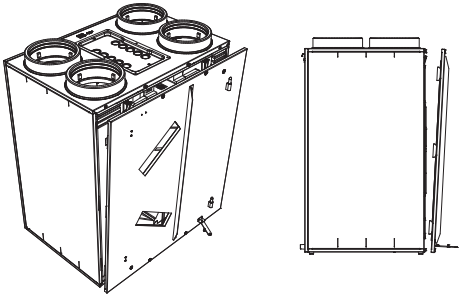
- Remove the heat exchanger from the unit by pulling on the strip.

⑤



- Clean the heat exchanger with warm water (max. 40°C) and washing-up liquid. Do not use any aggressive or solvent-based cleaners! Rinse the heat exchanger well using clean, warm (max. 40°C) water.
- Shake all of the water out of the heat exchanger and let this dry before putting it back in the unit.
- Make sure that you put the heat exchanger back in the exact same position!

⑥



- As soon as the heat exchanger is completely dry, this can be screwed back into the unit and the front panel can be put back again. Then put the filters and the filter caps back.

13. • Documents

13.1 • EU declaration of conformity

EU DECLARATION OF CONFORMITY

CE

The manufacturer located in Europe

RENSON® Ventilation NV
Industriezone 2 Vijverdam
Maalbeekstraat 10
8790 Waregem
BELGIUM

declares that the demand controlled ventilation systems for residential applications mentioned below,

Endura Delta

when used according to the respectively technical conditions of these products,

comply with the conditions of the European standards
- EN 13141-1 Testing components residential ventilation (supply and extraction vents)
- EN 13141-2 Testing components residential ventilation (supply and extraction grills)
- EN 13141-4 Testing components residential ventilation (fan)
- ISO 3741 Acoustic testing
- EN 55014-1 + A1 EMC (emission)
- EN 55014-2 + A1 + A2 EMC (immunity)
- EN 60335-1 + A1 + A2 + A3 + A4 Safety (general)
- EN 60335-2-80 + A1 Safety (particular requirements for fans)

implying that the products comply with the demands posed by:
- 2006/42/EC Machinery Directive, as amended and corrected
- 89/106/EEC Construction Products Directive, as amended
- Construction Products Regulation (EU) 305/2011
- 2014/35/EU Low Voltage Directive
- 1999/5/EC R&TTE Directive
- 2014/30/EU EMC Directive

The undersigned are both individually empowered to edit the technical dossier.

20 April 2016,

Paul RENSON
Owner

dr. ir. Ivan POLLET
Head of research

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SUNPROTECTION
OUTDOOR

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Creating healthy spaces

13.2 • Warranty terms & conditions for the user

The warranty is valid for two years. The installation and maintenance must be done according to the instructions and rules. Please visit our website, www.renson.eu, for the detailed warranty terms and conditions.

Exclusions:
The penetration of construction debris, the injection of other products than the appropriate products, use of aggressive liquids or solvents, defects resulting from incorrect or abnormal usage, small imperfections in the finish that have no effect on the reliability, damage due to paint, damage due to drilling, defects due to unprofessional repairs done by third parties, voltage spikes on the mains supply, lightning strikes, violence, or war.

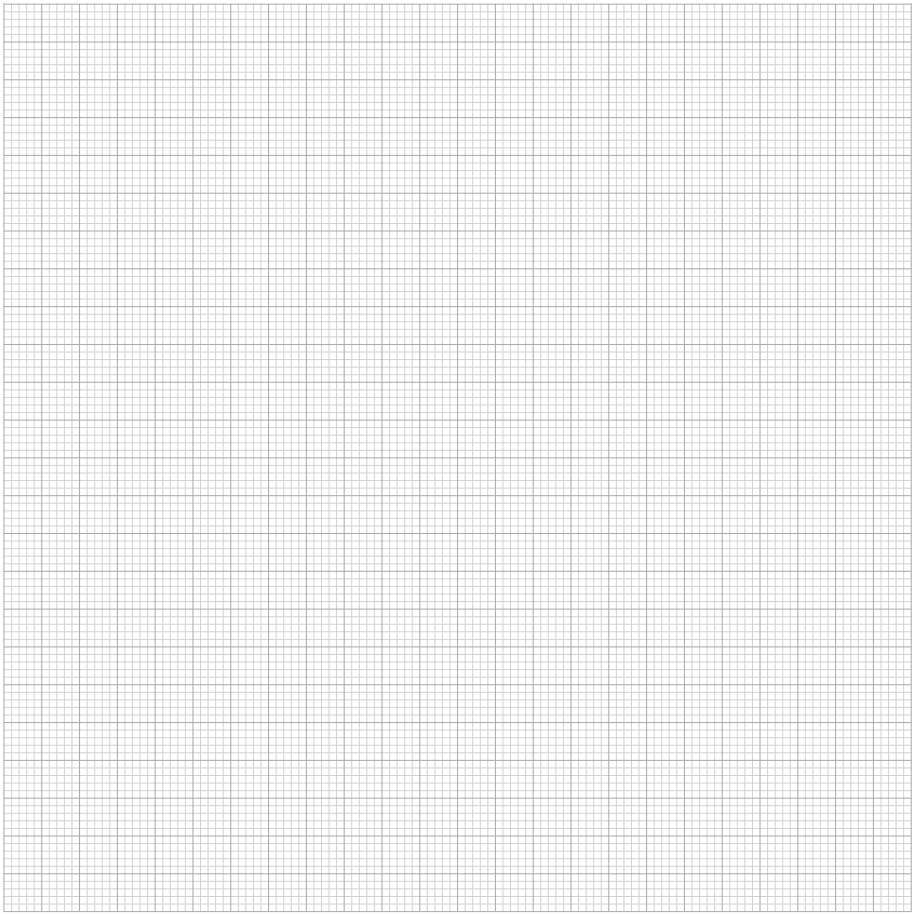
The proof of warranty is included in the packaging. The installer will fill this in and hand it over to the home owner.

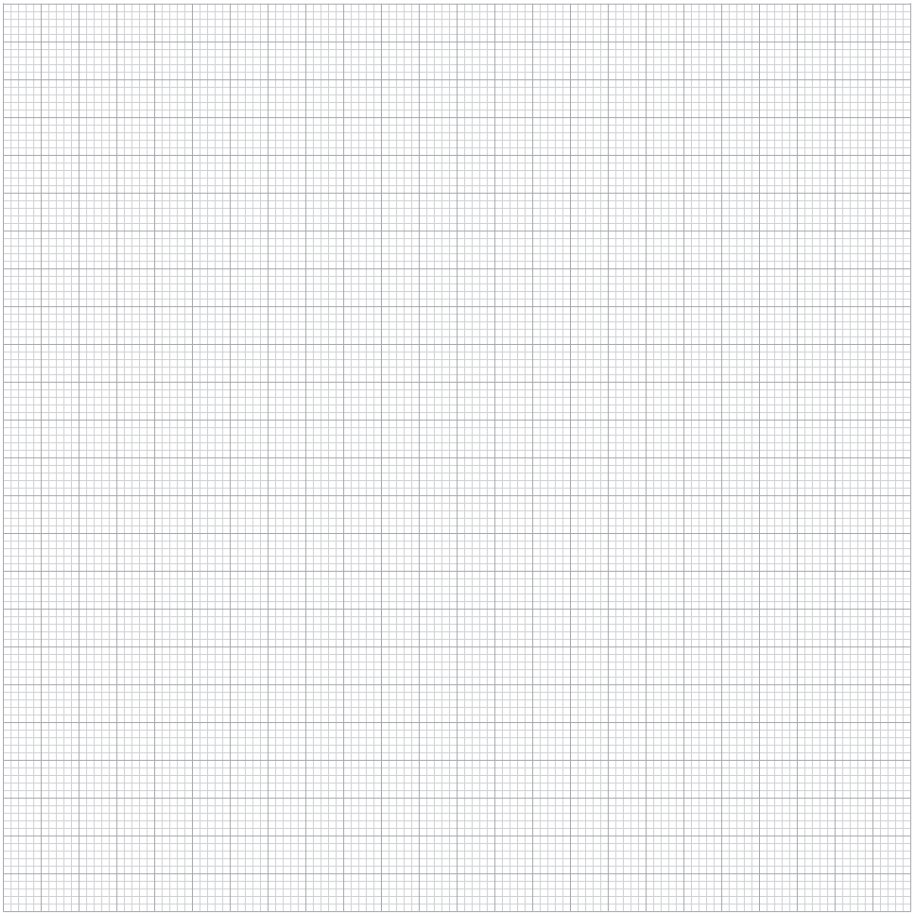
13.3 • Service

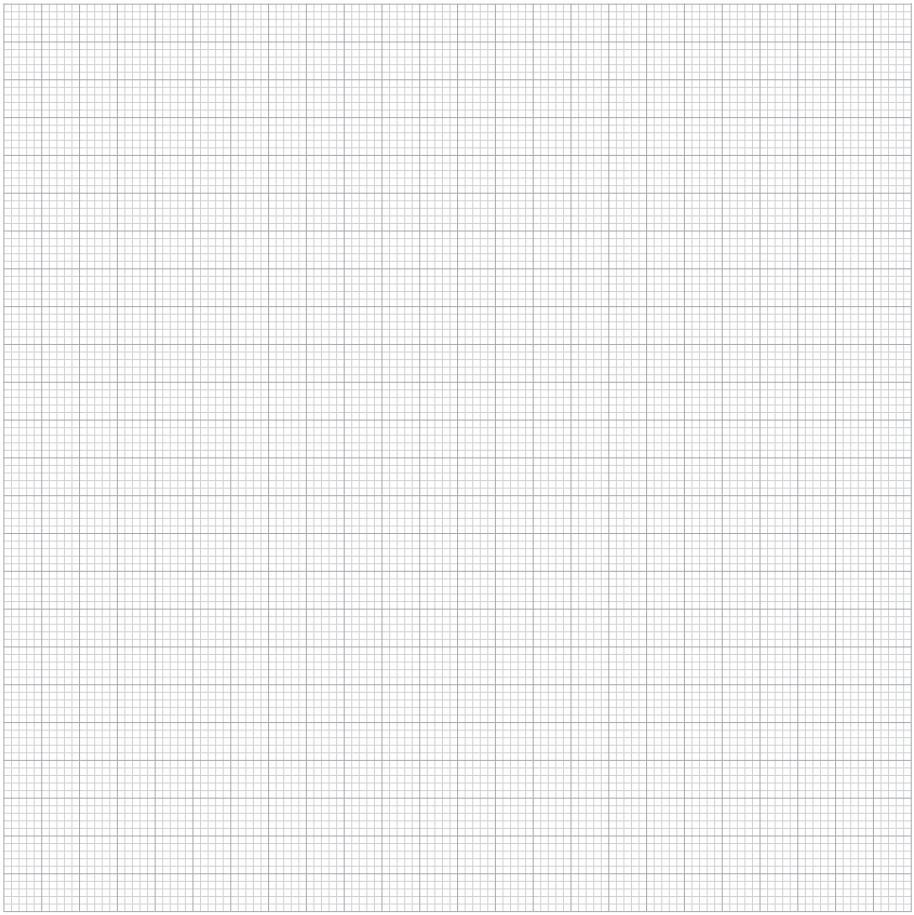
Please contact your RENSON® installer, stating the warranty number and manufacturing date, to request that your unit be serviced for maintenance.

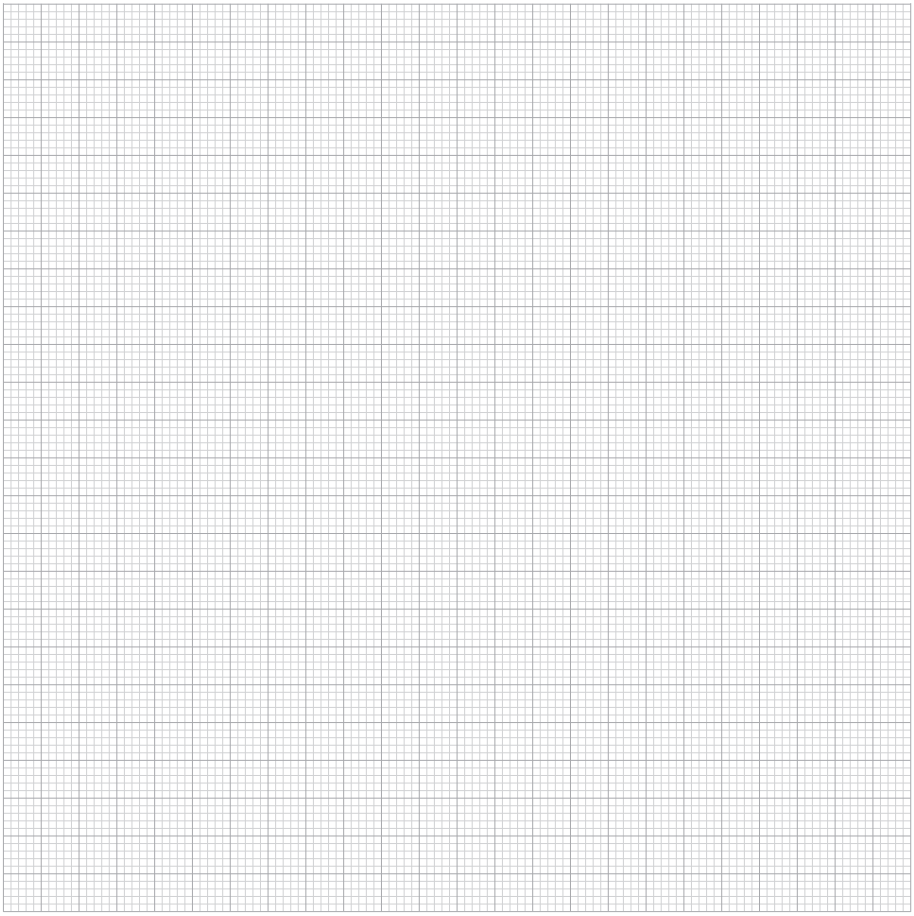
This is where the sticker bearing the unique number

for this Endura Delta will be affixed.









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