DucoBox Energy Premium

ENGLISH **en**

Installation manual

Video instructions
www.duco.tv

L1315004 (Revision L | 02.04.2025)

DUCO

Table of contents

Translation of the original instructions

See www.duco.eu for information regarding warranty, maintenance, technical data, etc.
Installation, connection, maintenance and repairs are to be carried out by an accredited installer. The electronic components of this product may be live. Avoid contact with water.

CE
DUCO, HANDELSSTRAAT 19
VEURNE, B-8630
09

DUCO

01   Introduction

The DucoBox Energy Premium is a mechanical ventilation unit with heat recovery. It supplies fresh air mechanically to and extracts contaminated air mechanically from the house by means of built in fans. During this process, the heat is recovered from the extracted air and transferred to the air supplied.

The DucoBox Energy Premium is a functional product and must be installed by a qualified installer.

A mechanical ventilation unit with heat recovery consists of:
- The unit
- Duct system for the intake of outdoor air
- Duct system for the extraction of stale air to the outside
- Duct system for the supply of fresh preheated air indoors
- Duct system for the extraction of stale indoor air to the unit
- Supply valves/window ventilators to supply preheated air to dry rooms[1].
- Extract valves/window ventilators to remove contaminated indoor air from wet rooms[2].

1. Dry rooms: living rooms, bedrooms, etc.
2. Wet rooms: kitchen, bathroom, toilet, etc.

Scope of delivery

Before starting to install the heat recovery unit, check to ensure it is complete and undamaged.
The scope of delivery of the heat recovery unit type DucoBox Energy Premium includes the following components:
- DucoBox Energy Premium 325 / 400 / 460 / 570
- Fixing bracket
- Mains cable 230V
- Installation manual
- User manual
- Condensate drain adapter, 32 mm tube with thread
- 2 x DucoBox Energy Premium Filter ISO 16890 Coarse 65 % (≈ G4)
- 1 x DucoBox Energy Premium Sealing cap

01.A   Versions

The DucoBox Energy Premium is available in a number of variants. This manual is valid for the following types:

Type	Supply and extraction capacity at 150 Pa in m³/h	2-zone system	Frost protection	Suitable for Passive House	Article number			
					LEFT		RIGHT	
					EU	UK/IRL	EU	UK/IRL
DucoBox Energy Premium **325-1ZS**	325 (460 under the 70% rule applicable in the Netherlands)	no	imbalance	no	0000-4358	0000-4456	0000-4359	0000-4460
DucoBox Energy Premium **325-1ZH**			imbalance + heater	yes	0000-4360	0000-4457	0000-4361	0000-4461
DucoBox Energy Premium **325/460[1]-2ZS**		yes	imbalance	no	0000-4362	0000-4458	0000-4363	0000-4462
DucoBox Energy Premium **325/460[1]-2ZH**			imbalance + heater	yes	0000-4364	0000-4459	0000-4365	0000-4463
DucoBox Energy Premium **400-1ZS**	400 (570 under the 70% rule applicable in the Netherlands)	no	imbalance	no	0000-4366	0000-4464	0000-4367	0000-4468
DucoBox Energy Premium **400-1ZH**			imbalance + heater	no	0000-4368	0000-4465	0000-4369	0000-4469
DucoBox Energy Premium **400/570[2]-2ZS**		yes	imbalance	no	0000-4370	0000-4466	0000-4371	0000-4470
DucoBox Energy Premium **400/570[2]-2ZH**			imbalance + heater	no	0000-4372	0000-4467	0000-4373	0000-4471

[1] for Belgium: DucoBox Energy Premium **325**, for the Netherlands: DucoBox Energy Premium **460**
[2] for Belgium: DucoBox Energy Premium **400**, for the Netherlands: DucoBox Energy Premium **570**

Key to product codes

	Code	Description
Flow rate	**325 / 400 / 460 / 570**	Indicates the maximum airflow in m³/h (460/570 m³/h only valid in the Netherlands when applying 70% rule)
Version bevelled side	**R / L**	Indicates the position of the bevelled side (with supply and extraction connections). L = left-hand side, R = right-hand side
Zones	**1Z**	Unit is suitable for one zone
	2Z	Unit features 2-zone control
Frost protection	**H**	With additional built-in frost protection
	S	Without additional built-in frost protection

Optional accessories

| Product	Article number
Siphon flat (Energy)	0000-4376
Duco Connectivity Board	0000-4810
Humidity Box Sensor DucoBox Energy Premium	0000-4374
Mounting chair standing (Energy Premium)	0000-4740
Connection piece with joint D160/D160 (M/M)	0000-4724
Connection piece with joint D180/D160 (M/M)	0000-4725
Connection piece with joint D180/D180 (M/M)	0000-4726
Connection piece with joint D200/D180 (M/M)	0000-4727

01.B Operation

2-zone system

The DucoBox Energy Premium models with 2-zone system (types 2Z) offer the option of dividing the home into a day and night zone. This means that ventilation will only operate in the relevant zone, which means reduced energy demand on the unit, the unit runs quieter and increased heat transfer is possible.

Zone designations

You need to take account of zone designations when you use an integrated 2-zone system.
Zone 1 is always the bevelled side of the DucoBox Energy Premium.
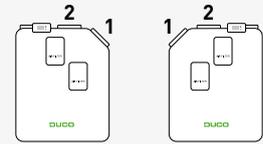
Bypass

The system includes a modulating bypass. This ensures, if necessary, that there is no heat transfer between the exhaust and outdoor air. This means that the house cools down in a controlled and gradual manner. This function is active mainly in the summer. The bypass opens if the indoor temperature rises above the set comfort temperature **(set to 22 °C by default)** and the outdoor temperature **is above 10 °C**.

Frost protection

The unit features frost protection as standard in order to protect it at very low outdoor temperatures and enable it to operate correctly.

1. Frost protection <u>without</u> a preheating element

The supply flow rate is slowed down gradually such that more warm air passes across the heat exchanger. This prevents the heat exchanger from freezing up. If the imbalance is insufficient to prevent it from freezing up, then the unit will be temporarily switched off.

2. Frost protection <u>with</u> a preheating element

If there is a risk of the heat exchanger freezing up, due to too low outside air temperatures, the preheating element comes into play to raise the temperature until there is no danger of the heat exchanger freezing up. This keeps ventilation flow rates constant.

If, in extreme cases, the preheating element is unable to heat up the outdoor air sufficiently, then a combination of the preheating element and imbalance (as described in point 1) will be provided. If the combination is insufficient to prevent it from freezing up, then the unit will be temporarily switched off.

Constant Flow

The unit features constant flow regulation. This ensures that the air flow rate between the supply and exhaust side remains constant if the filters become dirty.
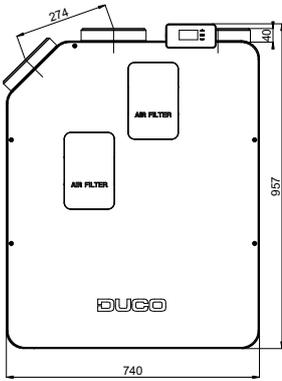
Passive House

The DucoBox Energy Premium 325 with heater is certified for use in a Passive House. See chapter "Passive House" on page 28 for more information.
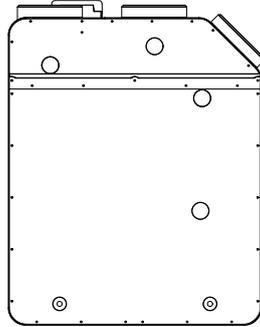
01.C **Dimensions**

LEFT model

Front view   **Rear view**
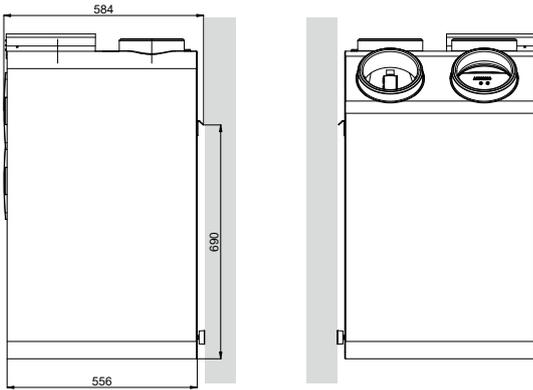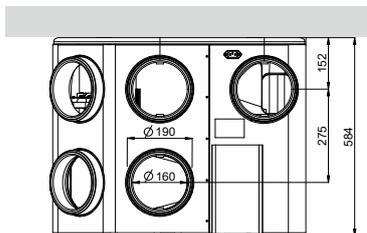
274   40

957

740

Side view

584

690

556

Top view

152

275

584

Ø 190

Ø 160

Bottom view

148

112

RIGHT model

Front view   **Rear view**

40   274

957

740

Side view

584

690

556

Top view

122   305

152

584

275

Ø 190

Ø 160

Bottom view

148

112
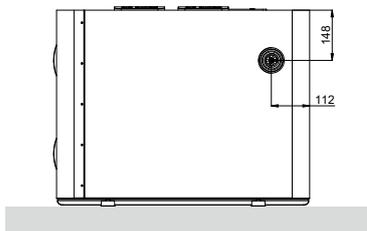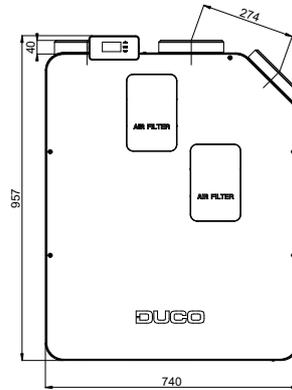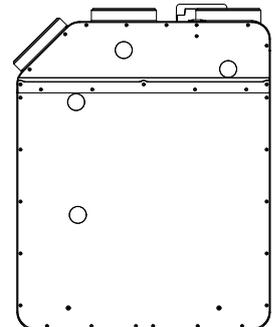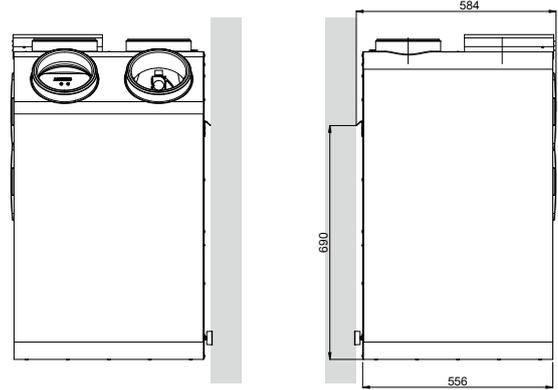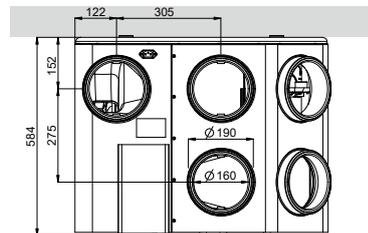
02 Regulations and safety instructions

> ⚠ **The installer is responsible for installing and commissioning the unit.**

> ⚠ **Do not install this product in areas where the following are present or could occur:**
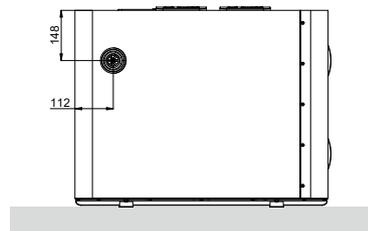> - **Excessively fatty atmosphere.**
> - **Corrosive or flammable gases, liquids or fumes.**
> - **Room air temperature above 40 °C or below -5 °C.**
> - **Relative humidity higher than 90% or outdoors.**
> - **Obstacles that prevent access to or the removal of the fan unit.**
> - **Bends in the ducts immediately upstream of the fan unit.**
> - **The DucoBox Energy Premium must not be connected to a (motorless) extractor hood or dryer.**

Make sure the electrical power supply corresponds to 230V, one per mono phase with grounding, 50/60Hz, AC system. The device must be connected to an earthed and fused wall socket.

Secure the unit, preferably in an enclosed space, using the correct screws and mounting bracket, to a wall or using a support frame on a floor with sufficient load-bearing capacity.

The fan unit can only be used with the appropriate DUCO accessories and user controller(s). The installer should ensure that the fan unit is placed at least 3m away from a chimney pipe. The unit must not be used in locations where it could be subject to direct water spraying. Certain situations may require the use of acoustic insulation materials.

Check that the unit is complete and undamaged when you take it out of the packaging. If in doubt about this, contact DUCO / your DUCO distribution point.

Electrical equipment should be handled with care.
- Never touch the unit with wet hands.
- Never touch the device when barefoot.

Do not use the unit in the presence of flammable or volatile substances such as alcohol, insecticides, petrol etc.

Make sure that the electrical system to which the unit is connected, complies with the stipulated conditions. Do not expose the device to weather conditions. Do not place any objects on the unit.

Do not use the unit as an extractor for water heaters, heating systems, etc.

Ensure that the unit discharges into a single exhaust duct that is suitable and installed for the purpose and exhausts to the outside. Ensure that the electrical circuit is not damaged.

Replace both filters in the unit every 6 months at most; this ensures that the unit is always protected against contamination and that the air being drawn in is always healthy.

Always observe the safety instructions in the manual when installing the device. Failure to follow these safety instructions, warnings, notes and instructions may result in damage to the DucoBox Energy Premium or personal injury and DUCO NV cannot be held responsible for this.

Installation of the DucoBox Energy Premium should be carried out in accordance with the general and locally applicable building, safety and installation regulations of the municipality and other authorities.

Only an approved installer should install, connect and commission the DucoBox Energy Premium as described in this manual.

Keep the manual near your unit. Maintenance instructions must be followed closely in order to avoid damage and/or wear.

It is recommended that a maintenance contract be taken out to ensure the unit is regularly inspected and cleaned. The device must be fitted in a touch-safe manner. This means, among other things, that under normal operating conditions no-one can reach moving or electrically live parts of the fan without intending to do so for operations such as:
- Taking off the cover.
- Taking the motor module out of the fan after removing the cover.
- Disconnecting a duct or control valve from the connection opening during normal operation.

It must not be possible to touch the fan by hand. Therefore, a ductwork should always be connected to the DucoBox Energy Premium before commissioning. Therefore, at least 900 mm of ducting must be connected to the unit.

The DucoBox Energy Premium meets the legal requirements for electrical appliances.

Always ensure that before work begins, the device is isolated from the power supply by removing the power cord from the wall socket or by switching off the fuse. (Use a measuring instrument to check that this is actually the case!)

Use suitable / appropriate tools to work on the unit.

Use the unit only for applications for which it has been designed, as stated in this manual.

The ventilation unit should operate permanently, i.e. the DucoBox Energy Premium should never be switched off (legal requirement).

The electronic components of the ventilation unit may be live. In the event of a fault, contact a professional installer and have repairs carried out only by qualified personnel.

This unit is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience or knowledge, unless they are supervised or have received instructions concerning use of the unit by a person responsible for their safety. Children must be supervised to ensure that they do not play with the unit.

If the power cord is damaged, it must be replaced by the manufacturer, after-sales support or individuals with comparable qualifications in order to prevent any hazard.

The user is responsible for safely removing the ventilation unit at the end of its useful life, in accordance with locally applicable laws or regulations. You can also take the unit to a collection point for used electrical equipment.

The unit is only suitable for housing construction and not for industrial use, such as swimming pools and saunas.

When handling electronics, always take ESD[1] inhibiting measures, such as wearing a grounded wristband.

Modifications to the unit or to specifications stated in this document are not permitted.

Do not pull on the cord to remove the plug from the socket.

Always consult the installer of your combustion appliance to establish whether there is any risk of flue gases entering the home.

Check that the voltage shown on the type plate matches the local mains voltage before connecting the device. You will find the type plate on the top of the unit.

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1   ESD = electrostatic discharge

03 Components and connections

03.A Parts

① Exhaust duct to outdoors
② Outdoor air supply duct
③ House exhaust duct
④ Supply duct to house (zone 1)
⑤ Supply duct to house (zone 2)
⑥ Wall bracket for wall mounting
⑦ Duct connection diagramme
⑧ Control unit with integrated user controller
⑨ Filter supply air
  Standard: ISO 16890 Coarse 65% (≈ G4)
  Optional: ISO 16890 ePM1 55%(≈ F7)
⑩ Exhaust air filter
  ISO 16890 Coarse 65% (≈ G4)

⑪ Mains voltage connection 230 VAC
⑫ Additional frost protection (optional)
⑬ Supply fan
⑭ Extractor fan
⑮ Condensate drain connection
⑯ Heat exchanger
⑰ Supply pressure sensor
⑱ Bypass (valve)
⑲ Extraction pressure sensor
⑳ 2-Zone valve

LEFT-HAND configuration
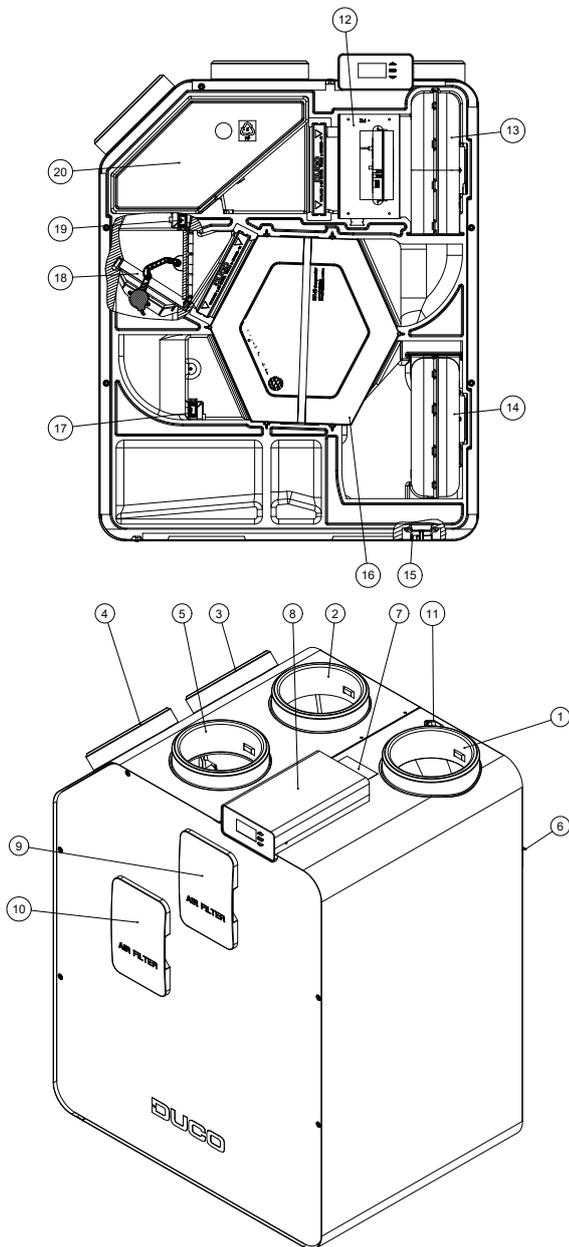
RIGHT-HAND configuration
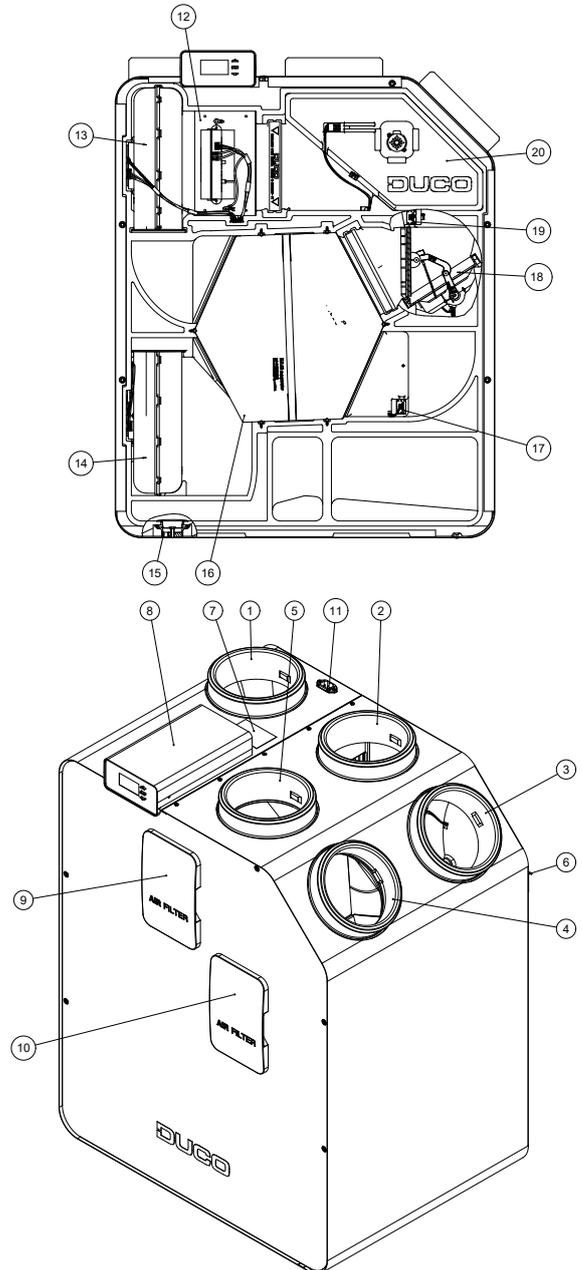
03.B   **Connections**

Printed circuit board (PCB) DucoBox Energy Premium
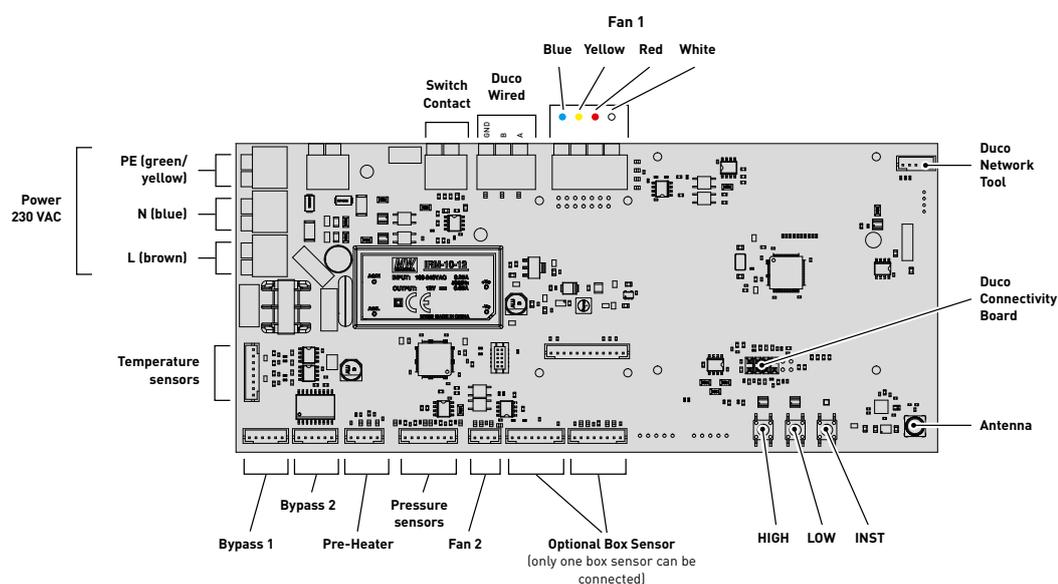
Duco Connectivity Board

The optional circuit board allows linking towards home automation and building management systems via REST API (locally or via the cloud) or Modbus TCP (locally). Both are possible via Ethernet or Wi-Fi.

The Duco Connectivity Board also enables the Duco Installation App to be used. This application supports - and relieves - installers to control and maintain a ventilation system in a user-friendly way.
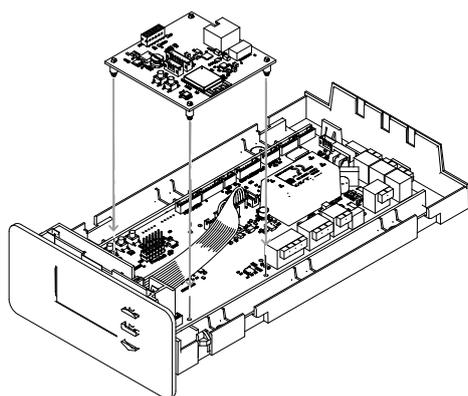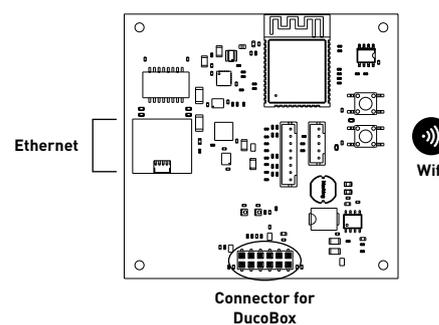
Placing the Duco Connectivity Board on the circuit board of the DucoBox Energy Premium

04 Wiring

The DucoBox Energy Premium can communicate with 'slave' components via either a wireless (RF) or Wired connection. Both types of communication can be combined in one system.

Communication with non-DUCO components is possible via the switch sensor.

04.A Wiring diagramme

Max. of 50 components of which no more than 25 RF

Colours	
230 VAC brown + blue	
24 VDC brown + white	
A yellow	
B green	
GND grey	
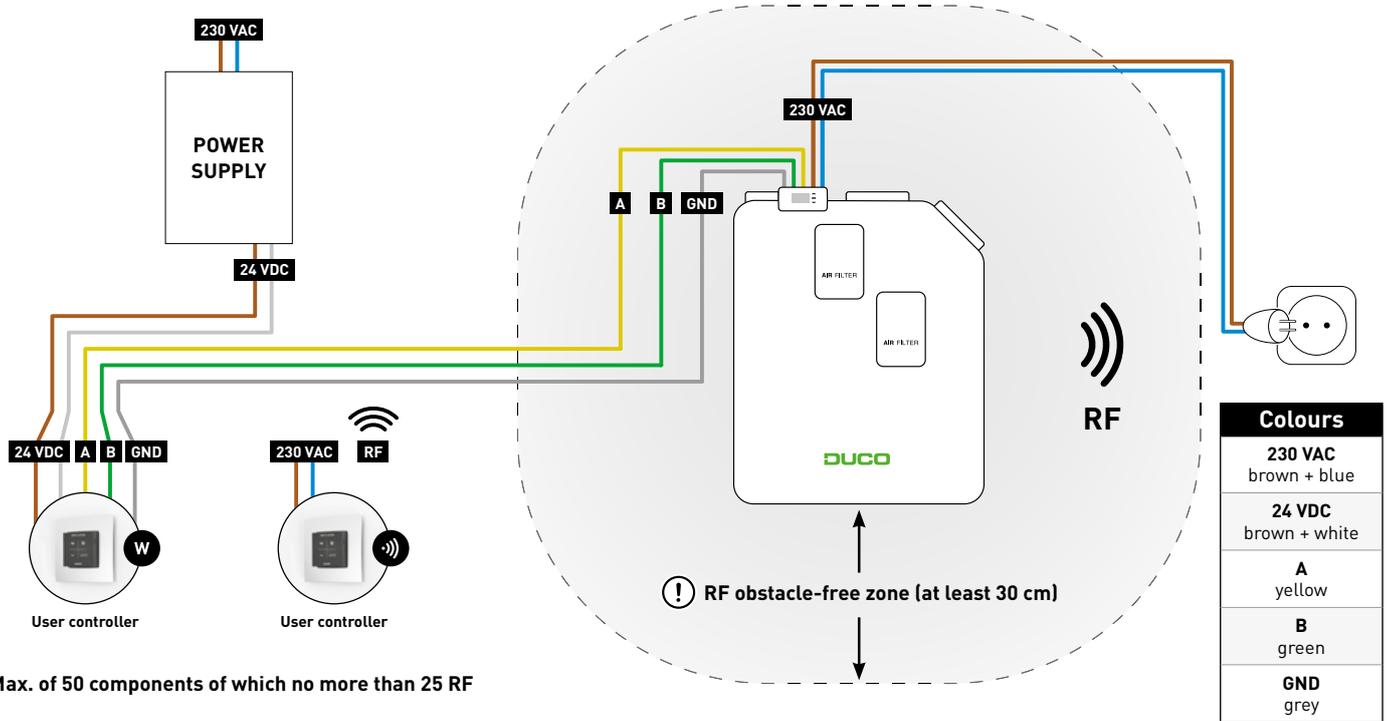
04.B Connecting cables to the PCB
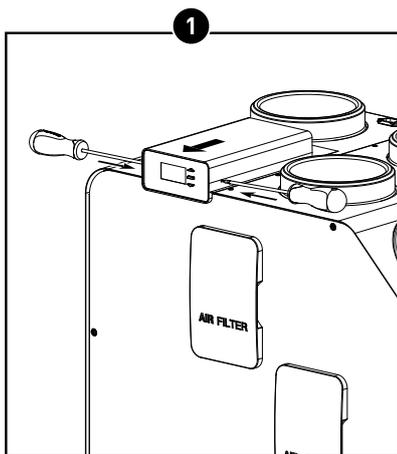
Using a screwdriver, push in the tabs to the indicated position and slide the cover about 1 cm forward.
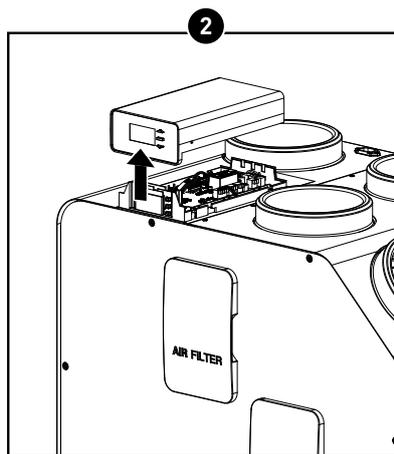
Lift the cover off the unit.
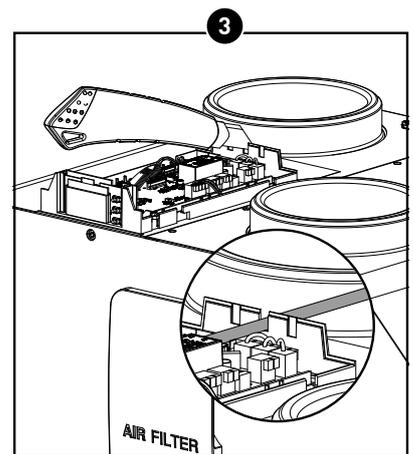
Cut away one or more of the provided pieces from the casing to connect cables.

04.C   Options power supply

For power supply, DUCO offers two options:

DESCRIPTION	ARTICLE NUMBER
Power supply 230VAC-24VDC/20W + casing	0000-4763
Duco Power Adapter 230VAC-24VDC/20W	0000-4762

04.D   RF (wireless communication) 🔊

RF components have a maximum free-field range of 350 metres. This distance will be much less in a building because of obstacles. Therefore, consider walls and concrete and metal objects. All slave components (except those which are battery powered) also act as repeaters. Signals from components that are unable to make a (strong) connection with the master component are forwarded automatically via no more than one other non-battery-powered component (= hop). Consult the RF communication information sheet (L8000001) on www.duco.eu for more information.

DUCO RF	
Power supply	230 VAC
Wiring	1,5 mm²
Frequency	868,3 MHz
Maximum distance	350 m in free field (less due to obstacles)
Maximum number of components	Up to 25 wireless components in a single system

04.E   Wired (cabled communication) Ⓦ

Wired components can be daisy-chained (= recommended). This means that a separate cable will not be required for each component. One central power supply can be used.

The cable required is a 0.75 mm² data cable. We strongly recommend using a shielded cable to avoid interfering with data communication.

DUCO WIRED	
Power supply	24 VDC
Wiring	5 x 0.75 mm² (5 x 0.25 mm² from Tronic window ventilators)
Maximum distance	up to 300 m
Maximum number of components	Up to 50 wired components in a single system

04.F   Modbus TCP/IP

Communication with building management systems is possible, for reading out information as well as controlling the ventilation system. This requires the DucoBox Energy Premium to be fitted with an optional Duco Connectivity Board. Consult the Modbus TCP/IP instructions at www.duco.eu.
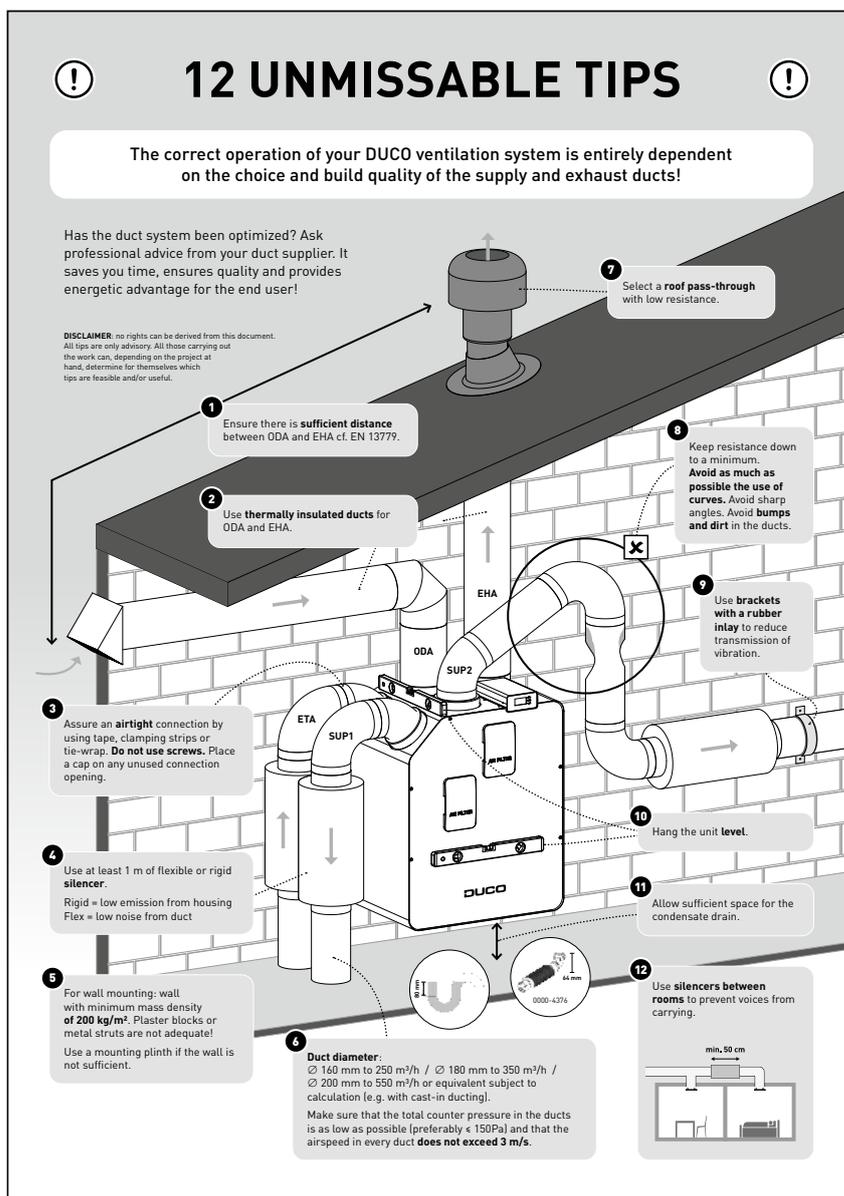
05 Mounting

05.A General guidelines

The proper functioning of your DUCO ventilation system depends entirely on the choice and implementation quality of the supply and exhaust ducts! Therefore, keep the following guidelines in mind when choosing the installation location.

> (!) **Before putting the unit into operation, it must first be connected to a duct network to prevent you from being able to touch the fan.**

- Always use high-grade materials and seals in order to achieve the best airtightness. The entire system is based on proper airtight connections and duct routing.
- The ductwork is to be installed with as few bends as possible and hence the least resistance. The system is based on a maximum resistance of 150 Pa.
- Take care to ensure that the ducts are free from dents, long screws and extra obstructions on the inside. This is detrimental to proper maintenance and sustainable operation.
- The supply duct (fresh outdoor air) must be far enough away from a polluted source. This could be the exhaust duct, or an outlet duct of combustion air. Please refer to applicable local legislation (e.g. for BE: STS-P73-1 chapter 4.16.3; for NL: EN13779:2007 table A.2; for FR: DTU 68.3 P1-1-1 (6.5) + P1-1-4 (5.1.2) etc.)
- To achieve maximum acoustic comfort, DUCO recommends installing a silencer on the ducts going into the house. A silencer may also be needed in order to prevent voices from carrying from one room to another.
- Ducts connected with the outdoor air must be adequately insulated in order to prevent condensation. Any ducting in uninsulated unheated spaces also needs to be insulated.
- Always install the extract air duct on the house side (ETA) draining towards the unit in order to avoid any build-up of condensation in the duct. A great deal of moisture-laden air can be extracted during showering or cooking.
- It is better to choose the supply of outdoor air on the north side, to avoid drawing in too warm air inside during the summer months.
- Take care to ensure that the air inlet is accessible for any cleaning that may be required. A smaller passage area can actually have a major negative impact on system performance.
- DUCO recommends installing a minimum of 40 cm length of straight ducting before deflecting the air flow on the outdoor air side of the supply.

Also consult our "12 not-to-be-missed tips" for an overview with the most important points of interest.
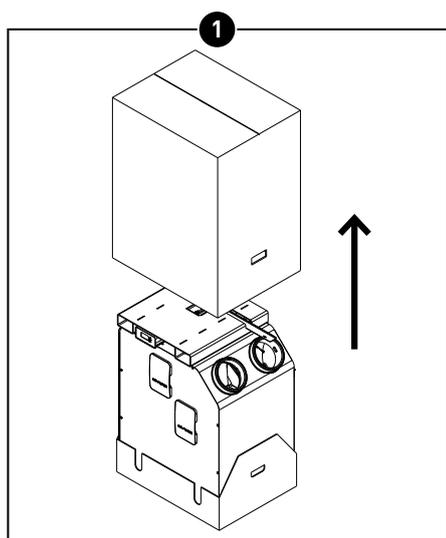

12 UNMISSABLE TIPS

The correct operation of your DUCO ventilation system is entirely dependent on the choice and build quality of the supply and exhaust ducts!

Has the duct system been optimized? Ask professional advice from your duct supplier. It saves you time, ensures quality and provides energetic advantage for the end user!

DISCLAIMER: no rights can be derived from this document. All tips are only advisory. All those carrying out the work can, depending on the project at hand, determine for themselves which tips are feasible and/or useful.

1. Ensure there is **sufficient distance** between ODA and EHA cf. EN 13779.
2. Use **thermally insulated ducts** for ODA and EHA.
3. Assure an **airtight** connection by using tape, clamping strips or tie-wrap. **Do not use screws.** Place a cap on any unused connection opening.
4. Use at least 1 m of flexible or rigid **silencer**. Rigid = low emission from housing Flex = low noise from duct
5. For wall mounting: wall with minimum mass density **of 200 kg/m²**. Plaster blocks or metal struts are not adequate! Use a mounting plinth if the wall is not sufficient.
6. **Duct diameter**: ⌀ 160 mm to 250 m³/h / ⌀ 180 mm to 350 m³/h / ⌀ 200 mm to 550 m³/h or equivalent subject to calculation (e.g. with cast-in ducting). Make sure that the total counter pressure in the ducts is as low as possible (preferably ≤ 150Pa) and that the airspeed in every duct **does not exceed 3 m/s**.
7. Select a **roof pass-through** with low resistance.
8. Keep resistance down to a minimum. **Avoid as much as possible the use of curves.** Avoid sharp angles. Avoid **bumps and dirt** in the ducts.
9. Use **brackets with a rubber inlay** to reduce transmission of vibration.
10. Hang the unit **level**.
11. Allow sufficient space for the condensate drain.
12. Use **silencers between rooms** to prevent voices from carrying.

min. 50 cm

05.B **Mounting DucoBox Energy Premium**

> ⚠ Keep **at least 60 to 100 cm** free space at the front of the DucoBox Energy Premium to enable maintenance of the unit.

Wall mounting

The DucoBox Energy Premium can be fixed to a wall, or if no wall is available that is adequate, the DucoBox Energy Premium can be placed on an optional support frame.

**1** Slide the cardboard packaging off the unit. If the unit is wall mounted, the cardboard can be removed from under the unit once it has been hung.
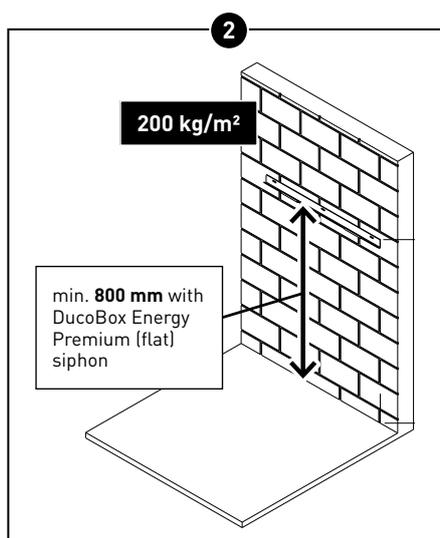
2 The unit must be mounted vertically against a solid wall with a minimum mass of **200 kg/m²** for a vibration-free mounting. Gypsum blocks or metal studs do not suffice! The type of condensate drain and air ducting chosen will determine the exact height.
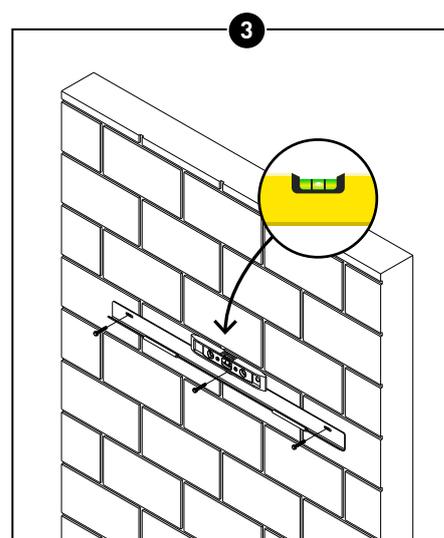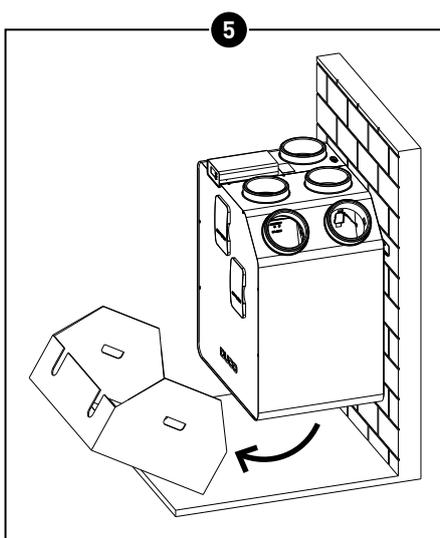

3 Fasten the wall bracket horizontally to the wall, making sure it hangs **level**. Ensure at the same time that the screws* and plugs* are suitable for the substrate and the weight of the unit (max. 48 kg).
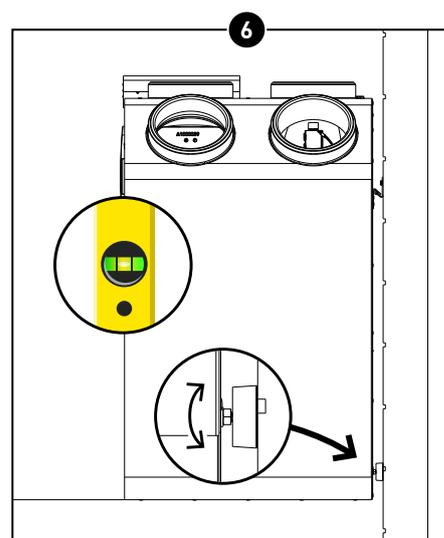
* Screws and plugs not included.
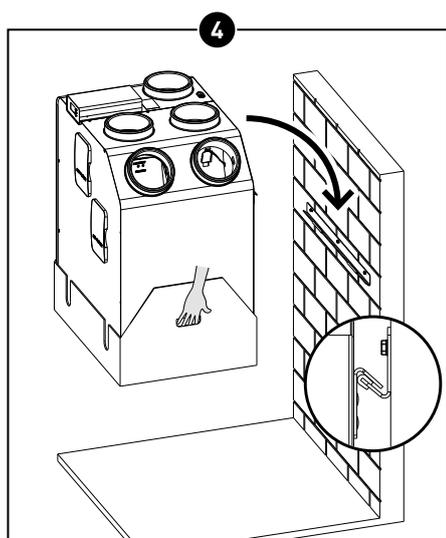
4 Hook the unit onto the wall bracket (with two people!). Use the garb handles in the cardboard at the bottom of the unit.
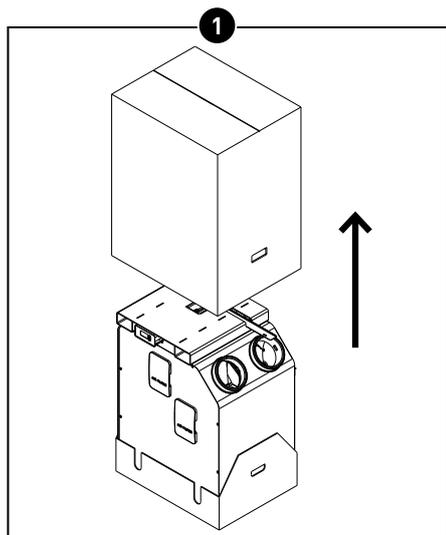

5 Remove the cardboard from the bottom of the unit.
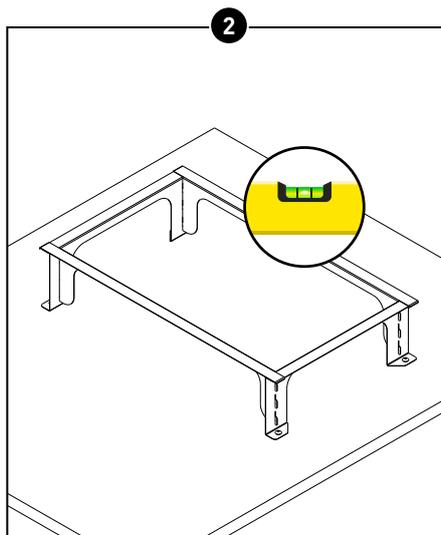

6 Adjust the rubber feet under the unit so it hangs **level** against the wall. This will ensure that condensate drains off properly.
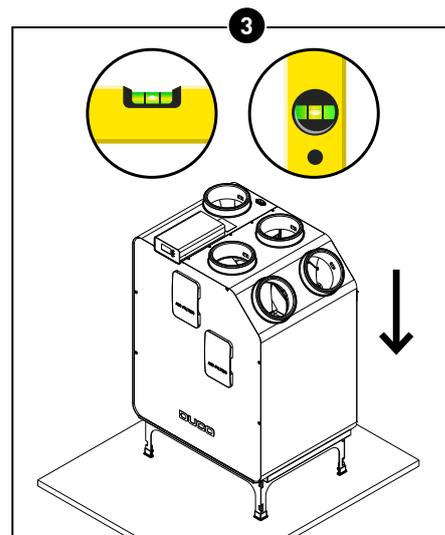
Floor mounting

Slide the cardboard packaging off the unit.

Fit the optional support frame in accordance with the manual supplied with it and ensure that it is positioned on a solid, **flat surface**.

Place the DucoBox Energy Premium on the support frame; check again that it is **level /**. This will ensure that condensate drains off properly.

05.C Mounting (optional) Humidity Box sensor

The optional, separately available Humidity Box Sensor (0000-4374) is inserted "plug & play" into the ETA connection of the DucoBox Energy Premium and centrally measures the moisture content of the exhaust air from the home. The sensor comes with a connection cable and is powered from the DucoBox. A DucoBox Energy Premium contains a maximum of one Humidity Box Sensor with central measurement in the ducts. Local moisture measurement can be done with optional Humidity (Room) Sensors.
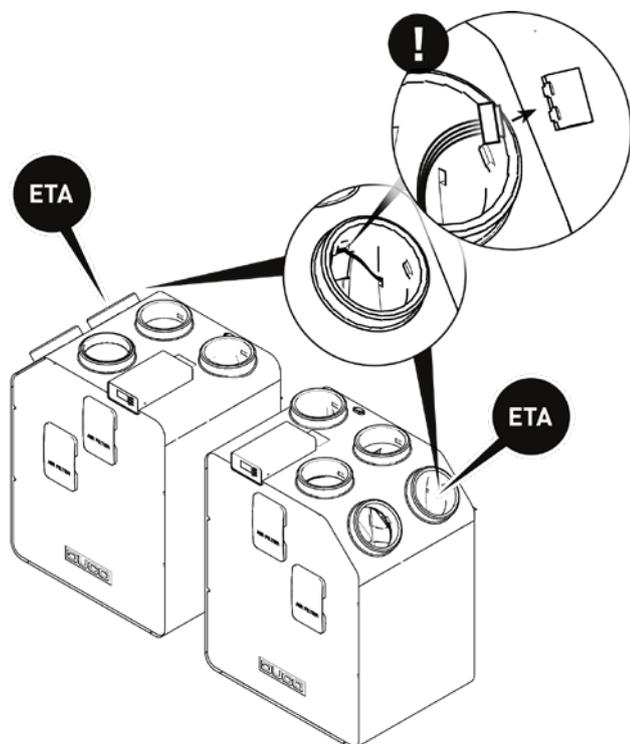

Video instructions
www.duco.tv

Humidity Box Sensor "plug & play" connection to DucoBox Energy Premium

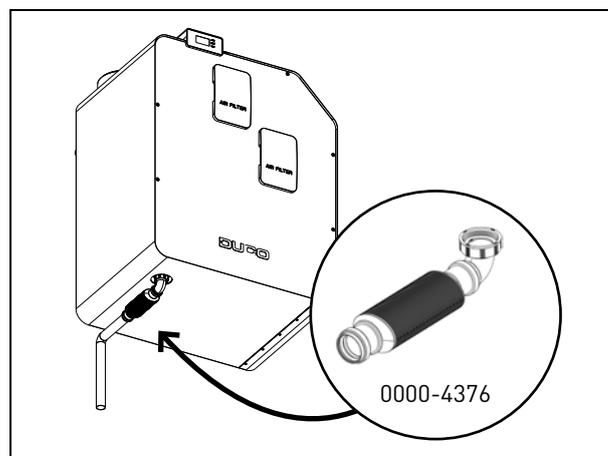|	
1	Ensure that the DucoBox Energy Premium is de-energised.
2	There is a cable with connector in the ETA connection. This must be connected to the Humidity Box Sensor.
3	Slide the Humidity Box Sensor into the recess in the ETA connection. Make sure the sensor is neatly concealed.
4	The DucoBox Energy Premium will automatically recognise the Humidity Box Sensor on start-up.

05.D **Fitting condensate drain**

The DucoBox Energy Premium should always be fitted with a condensate drain at the bottom. The unit is supplied with a standard 32 mm drain with a threaded end. There is an extra 32 mm diameter by 20 cm drain pipe fitting in the packaging. Condensate must be drained **frost-free and under a slight slope**. The condensate hose must not have any sharp bends.

OR

0000-4376
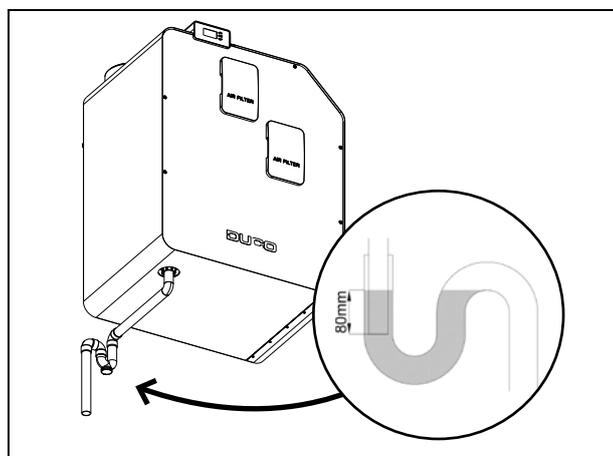
Standard siphon
(not included)

DucoBox Energy Premium (flat) siphon
(not included)

When using a standard siphon connection, a **water seal of at least 80 mm** must be provided. **Before start-up, it should also be filled with water**, to avoid an air leak, prevent sewer odour in the ventilation system and obtain a water lock.

Preferably use this flat membrane siphon from DUCO, as it is space-saving and less likely to cause air leaks. It can be fitted 'dry' and it has the advantage that it cannot dry out in hot weather.

05.E **Air ducts**

Choosing air ducts

Flow rate and maximum air velocity are defining factors in choosing the right ducting in order to avoid generating any extra obtrusive noise and pressure drop (see table).

Make sure the total back pressure is as low as possible (target ≤150 Pa) and the air velocity in each duct **is less than 3 m/s**.

| Desired flow rate (m³/h)	Minimum recommended duct diameter (mm)
0-30	⌀ 100
30-150	⌀ 125
150-250	⌀ 160
250-350	⌀ 180
350-400	⌀ 200

Integrating connectors

Based on the chosen duct diameter, connect the
appropriate connection pieces (with joint) to the ventilation unit. The 4 spigots on the ventilation unit have a diameter of ⌀160 (F).

Choice of connection pieces (with joint):

DESCRIPTION	ARTICLE NUMBER
Connection piece with joint D160/D160 (M/M)	0000-4724
Connection piece with joint D180/D160 (M/M)	0000-4725
Connection piece with joint D180/D180 (M/M)	0000-4726
Connection piece with joint D200/D180 (M/M)	0000-4727

The connection pieces can be connected airtight without additional fasteners.
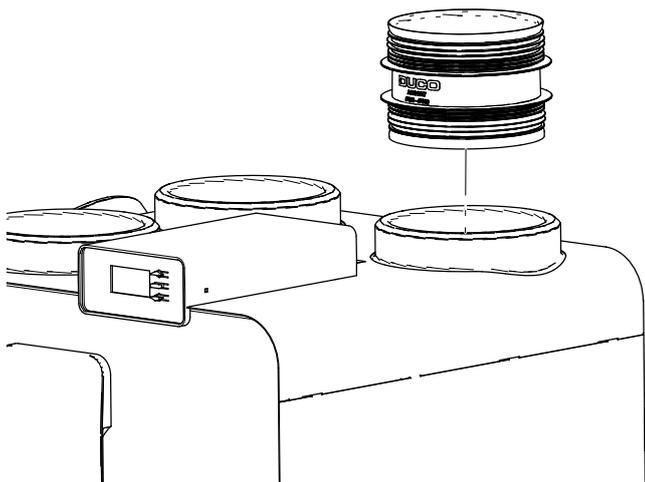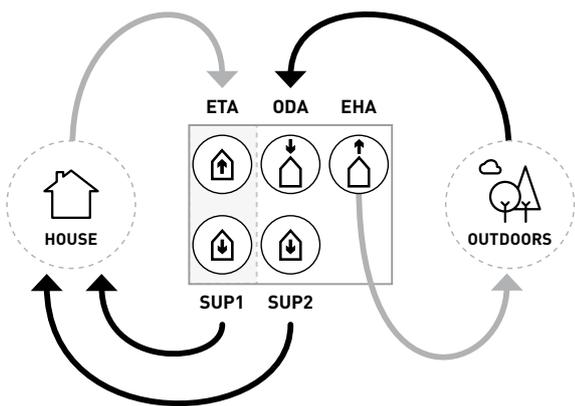
Slide the connection piece into the unit
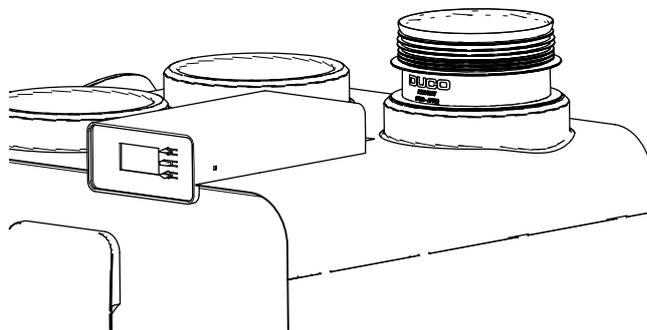
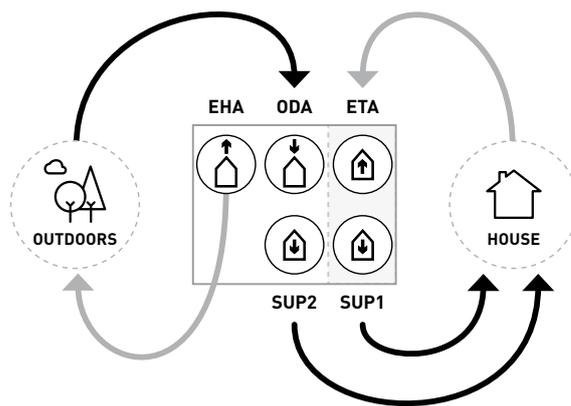Push the connection piece into the unit up to the stop flange

Connecting air ducts

When connecting the ductwork, it must be taken into account whether it is a left-hand or right-hand configuration. Air duct connections are also indicated on the DucoBox Energy Premium by means of stickers.

LEFT-HAND version   **RIGHT-HAND version**

→ Fresh air   → Stale air

Air ducts to **HOUSE**			Air ducts to **OUTDOORS**		
⊡	**SUP** Supply	Supply air from unit to house	⊡	**ODA** Outdoor Air	Supply air from outdoors to the unit
⊡	**ETA** Extract Air	Supply air from the house to the unit	⊡	**EHA** Exhaust Air	Exhaust air from the unit to outdoors

05.F **Vents**

Preferably use DUCO vents, such as DucoVent Basic, DucoVent Comfort, DucoVent Design or DucoVent Premium. Please refer to the technical data sheet or mounting instructions of the DUCO vents. When installing vents, it is best to observe a few rules:

- Ensure that the **supply and extract vents are at least 1.5 m apart** so that the different airflows cannot come into contact with each other.
- It is preferable not to fit a vent right next to a wall in order to prevent soiling.
- In order to cut down resistance, we recommend using ∅ 125 mm dia. vents only.
- Maximum exhaust flow rate per vent: 75 m³/h.
- Maximum supply flow rate per vent: 50 m³/h.Commissioning

06 Commissioning

06.A Starting up DucoBox Energy Premium

⚠ **The unit must not be powered up until everything has been connected correctly.** This includes the air ducting systems as well as all electrical components. Failure to connect correctly may result in destructive damage to the DucoBox Energy Premium or serious bodily injury!

Switch on the power to the DucoBox Energy Premium (plug into power socket). When the DucoBox Energy Premium starts up for the first time, you will be asked to enter a few basic settings. Navigate using the arrow keys (▲ and ▼) and confirm using **enter** (■).

```
SELECT LANGUAGE    1/6        SELECT COUNTRY     2/6        DATE & TIME        3/6
 NEDERLANDS                    BELGIUM
 ENGLISH                       THE NETHERLANDS              TIME:      08:05
 FRANCAIS                      UNITED KINGDOM              DATE:      07/01/2020
 DEUTSCH                       FRANCE                       TIMEZONE:  +01 GMT
```

06.B Next steps

After this, you can proceed to the next steps to finish the installation:
• Pairing control components to the DucoBox Energy Premium (Electrical installation, see page 18).
• Air-side calibration of the DucoBox Energy Premium (see page 21).
• **If there are no CO_2 and/or humidity sensors in the system**, a time programme can be set (see page 24).
• **Optional:** changing settings. The factory settings will suffice in most cases. However, it is possible to configure settings such as the Bypass and comfort temperature to suit the resident's wishes (see page 25).

After this, the DucoBox Energy Premium is ready for use.

To avoid contamination of the ducts, it is recommended that the unit be operated only when there are occupants, to avoid dust from the construction phase in the ducts and the unit.

06.C What in case of power failure?

When the DucoBox Energy Premium falls without power, it will retain all settings. When power is restored, the DucoBox Energy Premium will restart and function again. If the DucoBox Energy Premium falls without power for longer than (approximately) 8 h, the correct time will need to be reset.
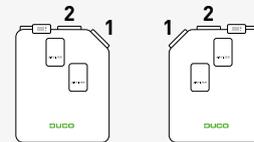
07 Electrical installation

07.A Pairing components
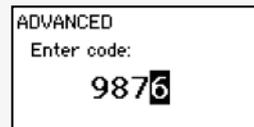
Zone designations

You need to take account of zone designations when using the integrated 2-zone system. **Zone 1 is always the bevelled side of the DucoBox Energy Premium.**
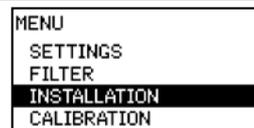

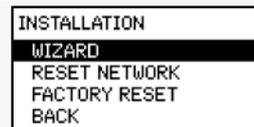## Pairing control components with the DucoBox Energy Premium

1 Activate advanced mode:
- Scroll down to **ADVANCED** and press **enter**.
- Enter the installer's code **9876** and press **enter**.

```
ADVANCED
Enter code:

    987█
```

2 Go to the **INSTALLATION** menu.

```
MENU
 SETTINGS
 FILTER
 INSTALLATION
 CALIBRATION
```

3 Start the **WIZARD**.

```
INSTALLATION
 WIZARD
 RESET NETWORK
 FACTORY RESET
 BACK
```

The DucoBox Energy Premium will automatically detect whether it is a 1-zone or a 2-zone system. The system now enables control components to be paired with the entire system (step 4), zone 1 (step 5) or zone 2 (step 6).

4 Pair the desired control components with **the entire system**. Namely:
- DucoBox Energy Premium **without** 2-zone system (types 1Z): all components
- DucoBox Energy Premium **with** 2-zone system (types 2Z): only components in wet rooms (bathroom, toilet, kitchen, laundry...).
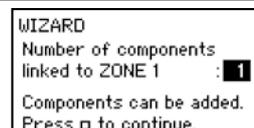
Briefly tap any button of all components to be paired*. The LED on the component will start flashing green once it has been paired correctly. The number of paired components will be shown in the display menu. Confirm by pressing **enter** (■) once all the desired components have been paired.

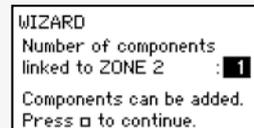* Please refer to the control component manual for comprehensive instructions.

```
WIZARD
Number of components
linked to BOTH ZONES : 4

Components can be added.
Press □ to continue.
```
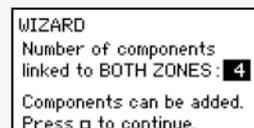
5 **FOR A 2-ZONE SYSTEM ONLY**

Pair the desired control components with **zone 1**. This could be the daytime zone (living room, office, etc.) Then confirm by pressing **enter** (■).

```
WIZARD
Number of components
linked to ZONE 1   : 1

Components can be added.
Press □ to continue.
```

6 **FOR A 2-ZONE SYSTEM ONLY**

Pair the desired control components with **zone 2**. This could be the night-time zone (bedrooms). Then confirm by pressing **enter** (■).

```
WIZARD
Number of components
linked to ZONE 2   : 1

Components can be added.
Press □ to continue.
```

All components have now been paired. This wizard can be run again if additional control components need to be paired at a later stage. All previously paired components will be retained in the network.

LED indications

Colour	Blinking (= installation mode)		On continuously	Off
	Blinking slowly	**Blinking rapidly**		
🔴 Red	**DucoBox (master):** Network just cleared. (This LED indication is temporary; subsequently, the DucoBox restarts) **Components (slave):** Not in network **User controllers (15 seconds after controlling):** Error on the system (at Error/warning-> on input)	**Components (slave):** Currently pairing	**Controls:** Error on the system (at Error/warning-> Auto)	In case of normal operation, the DucoBox LED will turn off after some time in order to save energy.
🟠 Orange	Controls (15 seconds after controlling): Warning on the system (in case of Error/warning) -> on input		Controls: Warning on the system (at Error/warning) -> Auto	
🟢 Green	In network	In network, waiting to pair other components with this component		
🟡 Yellow	Transition phase during calibration (waiting for pressure control to stabilise) A registered control / sensor is in installation mode but no longer connected to the Master		Initialising (system configuration in progress)	
⚪ White			Normal operation The brightness of the LED on the DucoBox and some control components indicate the current ventilation percentage (bright = 100% ventilation).	
🔵 Blue	Visualisation of component (e.g. when changes are implemented via the master)			
🟣 Magenta	**DucoBox (master):** Software update via Duco Connectivity Board or Duco Installation Kit		**DucoBox (master):** Update completed	

07.B Removing / replacing components

Removing paired components from the network or replacing is **only possible within 30 minutes after the component is paired or rebooted**. Rebooting can be done by disconnecting the power for a moment. After a time-span of 30 minutes, remove and replace operations are ignored. This is valid for **all components from date of manufacture 170323**.

Removing a component

1 Activate 'Installer mode' by **long-pressing 2 diagonal buttons on a paired control**. The LED will flash green rapidly.

⏱ **5 sec**

2 Press **once and hold** a button on the component to be removed in order to remove it from the network. **ATTENTION: any underlying components will also be removed from the network.**

⏱ **5 sec**

3 Deactivate 'Installer mode' by pressing the 4 buttons on a **paired control** simultaneously (or using the palm of your hand on a control featuring touch buttons). The LED will turn white.
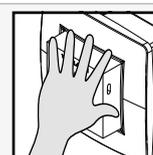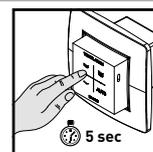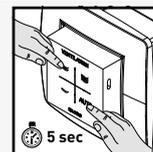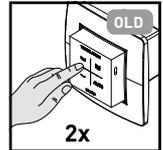
Replacing a component
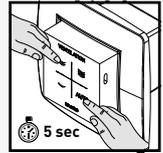
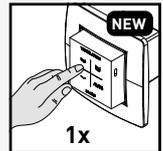|		
1	Activate 'Installer mode' by **long-pressing 2 diagonal buttons on a paired control**. The LED will flash green rapidly.	5 sec
2	Press **2x briefly** on the button of the component to be replaced.	OLD 2x
3	Press the button of the new component **1x briefly**. The latter will take on all settings / connections in the network.	NEW 1x
4	Deactivate 'Installer mode' by pressing the 4 buttons on a **paired control** simultaneously (or using the palm of your hand on a control featuring touch buttons). The LED will turn white.	
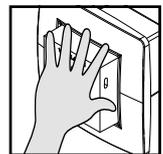
07.C Tips

The network can be wiped or a full reset of the DucoBox Energy Premium can be carried out in the event of any problems. To do this, refer to the following functions under the **INSTALLATION** menu (visible only after activating advanced mode, see page 26).
- **RESET NETWORK**: this removes all paired control components from the network.
- **FACTORY RESET**: this resets the entire system (= DucoBox Energy Premium + paired components) to factory settings. The calibration will be lost.

Use the **Duco Network Tool** or the **Duco Installation App** to read out information from components.

Never pair more than one system with RF components at the same time. This could result in components on the wrong system being paired or in components failing to respond.

08 Air-side calibration

The calibration of the DucoBox Energy Premium can be divided into several steps:
1. Pre-setting supply and exhaust vents
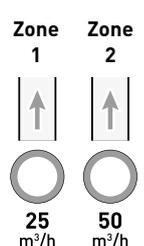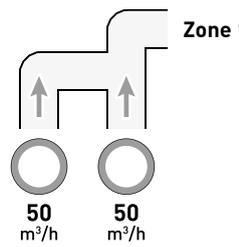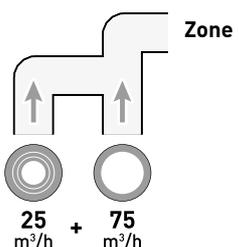2. Calibrating flow rates

> **(!)** For the system to work correctly, it needs to be calibrated.
> This will ensure its operation is as quiet as possible and energy-efficient.

08.A Pre-setting vents

The exhaust and supply vents are installed in a moisture-laden/stale air extraction or fresh air supply duct. In order to calibrate the air supply and extraction correctly, these vents must be set **depending on the situation** in accordance with the table below.

> **(!)** A maximum of 50 m³/h is recommended for **supply** valves to avoid excessive noise production. For this reason it is recommended that the flow be split between several vents for higher flow rates.

SITUATION 1: One vent per zone	SITUATION 2: Multiple vents per zone with **equal flow rates**	SITUATION 3: Multiple vents per zone with **different flow rates**
Set **all vents to the fully open position**, regardless of the desired flow rate.	Set **all vents to the fully open position**, regardless of the desired flow rate. With DucoVent Design vents, turn the cone on the trim plate to the fully open position.	Set the vents so they match the desired flow rate **in accordance with the table**.

EXAMPLE (Situation 1):

Zone 1 — 25 m³/h   Zone 2 — 50 m³/h

EXAMPLE (Situation 2):

Zone 1 — 50 m³/h   50 m³/h

EXAMPLE (Situation 3):

Zone 1 — 25 m³/h + 75 m³/h

DucoVent Premium	DucoVent Design	DucoVent Comfort	DucoVent Basic
Position 8.0	(open)	Position 0	**100%** open
Position 5.2	(mid)	Position 3	**50%** open
Position 3.0	(closed)	Position 7	**25%** open

> **(!)** When using DucoVent Design vents, always leave at least the outer ring in place for an acoustic effect.
>
> Acoustic ring ☑ ☒
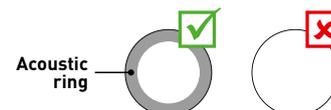
08.B Calibrating flow rates

The DucoBox Energy Premium's adjustment mode can be activated via the display menu.

> **(!) IMPORTANT, <u>BEFORE</u> CALIBRATING**
> Close all windows and doors. Ensure that all duct openings in the DucoBox Energy Premium are fully closed and that the DucoBox Energy Premium cover is closed! Avoid air leaks in the ventilation ducts. Open all interior doors between the various zones.

Adjusting DucoBox Energy Premium

1	Activate advanced mode: • Scroll down to **ADVANCED** and press **enter**. • Enter the installer's code **9876** and press **enter**.	ADVANCED Enter code: 987**6**

Calibrating **supply** vents

NOTE: Zone 1 and zone 2 must be calibrated separately for **2-zone systems in THE NETHERLANDS**. After calibrating zone 1, steps **3** up to **5** must be repeated for zone 2. The display shows which zone is involved.
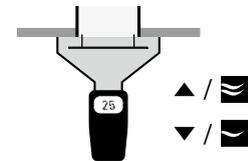
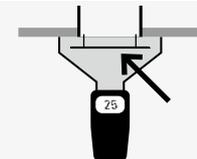|		
2	Scroll down to **CALIBRATION → WIZARD** and press enter. The DucoBox Energy Premium calibration mode starts up. Do not start manual calibration until you see the message on the display and follow the instructions on the screen. Enter the flow rates for each zone if asked to do so.	CALIBRATION WIZARD BACK
3	In the '**Adjust the supply vents**' step, select the duct with the highest flow rate and resistance and, using a pressure-compensated air flow meter, measure the flow rate at this vent. If the flow rate is too high or too low, you can adjust it using the arrow keys on the DucoBox Energy Premium. Depending on the remote control version, this can also be done by pressing the (lower) and (higher) buttons on a paired remote control. Adjust the flow rate so as to obtain the desired flow rate at this vent. The flow rate can be adjusted at the vent. **NOTE:** The system needs around ten seconds to run stably when adjusting the flow rate using the buttons on the DucoBox Energy Premium, remote control or making large changes at the vent. The flow rate cannot be measured correctly until after this time has elapsed.	WIZARD 2/3 Adjust all <u>supply</u> valves. Press ▲ or ▼ to change the pressure: 95Pa (57%) Wait until stable... ▲ / ⌇ ▼ / ⌇
4	Proceed now with the remaining supply vents. **The flow rate from these other vents must only be adjusted at the vents themselves.** Adjusting vents will not alter the flow from previously calibrated vents.	
5	When all supply valves have been adjusted, press the **enter button** (■) on the DucoBox Energy Premium or you can confirm by long pressing the **AUTO button** of the remote control.	

Calibrating **exhaust** vents

6	Repeat steps **3** up to **5** for all **exhaust** vents.	WIZARD Adjust the <u>extract</u> valves. Press ▲ or ▼ to change the pressure: 75Pa (69%) Press □ to continue.

08.C Verification

The calibrated flow rates can be checked at the various vents once adjustment and calibration have been completed. Do this by going into **advanced mode** (see page 26) and select "**CALIBRATION → VERIFY HIGH LEVEL**". The DucoBox Energy Premium will now start ventilating 30 min at its regulated ventilation setting.

09 Display menu

The DucoBox Energy Premium is equipped with a graphic display, which allows easy adjustment of all necessary parameters of the unit. Settings and calibration can also be done via the free **Duco Installation App** if a Duco Connectivity Board is present (or if you have the Duco Installation Kit (= installer's tool).
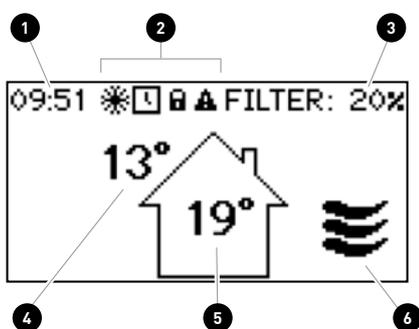
09.A Display overview and operation

Operation

The display on the DucoBox Energy Premium features 3 buttons: **up** (▲), **down** (▼) and **enter** (■). The arrow keys can be used to scroll through the menu. If the display has not been used in the normal operating mode, it will be deactivated after **1** minute. Press any button at random on the display in order to reactivate it. Press enter (■) to retrieve the menu.

Main screen

When starting up the DucoBox Energy Premium, the display will light continuously until the calibration is fully completed. Then the following main screen is visible:

1	Time
2	Symbols
	※ Frost protection is active (see page 26)
	🕐 Time programme active (see page 25)
	🔒 Menu is in advanced mode (see page 26)
	⚠ There is a fault. The system might not be working properly.
3	Filter status • 100% = new filter • 0% = replace filter
4	Outdoor temperature
5	Indoor temperature
6	Ventilation position The pictogram indicates the active position of the system (only if '**UNIT CONTROL**' is active). See page 24 for more information.

09.B Change ventilation mode

The ventilation position can be changed via the display menu or via one or more external controls (optional). The display menu and any external controls will always show the same position.

Ventilation positions

AUTO	**Automatic mode** (= recommended) The ventilation system runs at low setting and will rev up only when needed. This guarantees an operation that is as energy-economical as possible. Speeding up is based on CO_2 and/or humidity measurements (if sensors are present) or on a preset time programme (see page 25).
⌣	**Low mode** The system exhausts at **10%** of maximum capacity.
≋	**Medium mode** The system exhausts at **50%** of maximum capacity.
≋	**High mode** The system exhausts at **100%** of maximum capacity.

Changing the ventilation position via the unit

The DucoBox Energy Premium includes an option to view and change the ventilation mode via the display menu. For this purpose, the following setting must be activated: **SETTINGS → UNIT CONTROL** (standard = **ON**). If this option is active, the main screen will show the ventilation position (see page 23) and using the arrow keys (▲ / ▼) will enable changing the ventilation position. Open the menu via **enter** (■).

The selected ventilation mode on the unit is permanent (indicated in purple on the controls) until the user activates another mode. A control is needed if you want to set temporary manual modes. DUCO recommends the **AUTO** mode for an optimal and energy-efficient operation.

09.C Settings for the resident

The following settings can be adjusted by the occupant:

Date & time

The date & time will be set correctly during the initial installation which will have been carried out by the installer. Each DucoBox Energy Premium will remember the date and time for a number of hours after a power interruption. If the date and time have nevertheless been set incorrectly, they can be corrected manually via the menu.

If the DucoBox Energy Premium is fitted with a Duco Connectivity Board and the DucoBox Energy Premium is connected to a computer network with internet access, the date and time will automatically synchronise. If this is not the case, the date and time can be set in the following way.

Setting date & time	
1	Go to **SETTINGS → DATE & TIME**.
2	Change the hours by pressing the ▲ or ▼ button and press **enter** (■) to confirm.
3	Change the minutes by pressing the ▲ or ▼ button and press **enter** (■) to confirm.
4	Change the day, month, year and time zone in the same way. Date and time are now set correctly.

Time programming

A set timetable can be programmed into the ventilation unit. This is desirable when there are no CO_2 and/or humidity sensors in the ventilation system. With the time programme, the DucoBox Energy Premium will increase or decrease the ventilation of the home at fixed times. The timer programme can be adjusted by the user on the DucoBox in the following way.

The timer programme is deactivated by default.

The timer programme can also be adjusted using the Duco Installation App.

Adjusting the timer program

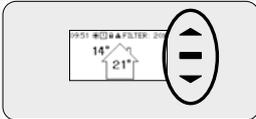|	
1	Go to **SETTINGS → PROGRAM**.
2	Select the desired zone (if it is a 2-zone system).
3	Select the (**Mon-Fri + Sat-Sun** or **Mon-Sun**) mode, **Mon-Fri + Sat-Sun** is standard.
4	Select the desired period in the week.
5	Select **ADD** to insert a new time point (up to 8) into the program.
6	Set the desired time and ventilation level using the ▲ and ▼ arrow keys. Confirm using **enter** (■).
7	Add more time points.
8	Select **BACK** to go back out of the menu in order to select another period or zone.
9	You can exit the menu completely by pressing ▲ and ▼ simultaneously.

Bypass

The system is able to partially or completely deactivate heat recovery if the temperature in the house rises too high, e.g. due to direct sunlight during hot summer days. In this case, the bypass will direct the air extracted from the house either partially across the heat exchanger or not at all. Fresh outdoor air will therefore not be heated up by warm stale indoor air. This relatively cooler outdoor air entering the house will be used to reduce the temperature in the house as far as possible down to the desired temperature.

By default, the setting for automatic bypass operation is activated, but it can also be set manually.

Automatic operation (= recommended)

The bypass will gradually open if the temperature in the house rises too high and the outdoor temperature is lower than the indoor temperature. The temperature of the fresh outdoor air will be colder than the indoor temperature by up to a maximum of **1 °C**; this will gradually cool the house down without an uncomfortable feeling of cold air.

Setting the bypass manually

If so desired, the user can deactivate automatic bypass operation by opening or shutting it manually.

Bypass settings

SETTINGS

   BYPASS

      STATUS (for information)
Current bypass status.
0%: bypass shut (= heat exchange active)
100%: bypass open (= no heat exchange)

      MODE
AUTO (= standard): automatic operation based on measured temperature and comfort temperature setting
OPEN: heat exchange at no time
SHUT: heat exchange all the time

      ADAPTIVE
If **MODE** = **AUTO** and **ADAPTIVE** = **ON** , the system will automatically aim for the most pleasant sensation temperature thanks to smart comfort temperature control. The system will adjust the desired indoor temperature based on the outdoor temperature and the season of the year.

     COMFORT TEMPERATURE
In **AUTO** mode, the system will strive to bring the temperature in the home to this comfort temperature.
Standard: **21 °C**

09.D **Advanced settings**

Gaining access to menus intended for installers only requires the **advanced mode** to be activated. When the advanced mode is active, additional items will appear in the menu, which enable the unit to be put into operation.

Activate advanced mode

1 Press **any button** on the DucoBox Energy Premium's display.

2 Scroll down to **ADVANCED**. The padlock next to the menu indicates that the advanced mode is locked. Press **enter**.

```
MENU
  SETTINGS
  FILTER
  ADVANCED        🔒
  BACK
```
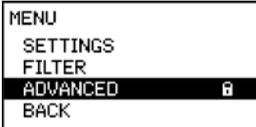
3 Enter the installer's code **9876** and press **enter**. Now additional items are available in the menu. The padlock (🔒) on the display menu indicates that advanced mode is active.
After 30 minutes of inactivity or after restarting the DucoBox Energy Premium, the menu will leave the advanced mode. The advanced mode can also be closed down manually using the **CLOSE ADVANCED** menu command.

```
ADVANCED
Enter code:
    9876
```

Frost protection

There is a possibility at low outdoor temperatures that the moisture in the exhaust air will condense in the heat exchanger. The DucoBox Energy Premium is equipped with several mechanisms to prevent this condensate from freezing:

- The unit can be equipped with a **heating element** (= optional) to add heat to the outdoor air in order to prevent it from freezing up.

- In addition to this, the unit will adjust air flow rates such that freezing up will be prevented (= temporary **imbalance method**).

The frost symbol (❄) will be shown on the display whenever frost protection is in operation.

The electric heating element (if any) can be deactivated, frost protection itself cannot be deactivated. The unit will adjust flow rates when the heating element is deactivated in order to prevent freezing up. However, DUCO advises against changing the standard settings.

Frost protection settings

```
SETTINGS
   FROST PROTECTION
```

```
STATUS                    (for information)
```
NORMAL: frost protection on standby
ACTIVE: frost protection in operation

```
HEATER
```
Only if the unit is fitted with a heating element.
ALLOW: use heater to heat air
REFUSE: do not use heater

```
PASSIVE HOUSE
```
Only for DucoBox Energy Premium 325 with heating element.
ON: deactivate imbalance method as frost protection
OFF: normal frost protection operation (including allow imbalance method)

What in case of freezing?

If, despite the built-in mechanisms for frost protection, the DucoBox Energy Premium should exceptionally freeze, this will be reported on the display. In this case, the DucoBox Energy Premium will temporarily switch off all ventilation for 8 hours and then try to restart ventilation. If the unit is still frozen, it will shut down the ventilation permanently. In this case, once the unit has thawed out completely, the occupant needs to withdraw the plug and re-insert it in order to restart the ventilation.

```
Passive House
Frost Protection Shutdown
[PH]
```

09.E **Menu structure**

The overview below contains all menus in the DucoBox Energy Premium. Menus with a padlock (🔒) are only visible to the installer after entering the installer's code **9876**.
Depending on the software version of the DucoBox Energy Premium, the overview below may differ.

INFO

TEMPERATURE SENSORS (for information)

The DucoBox Energy Premium is equipped with 4 temperature sensors, which measure the temperature on each duct connection. The values of these temperature sensors are by way of an indication.

PRESSURE SENSORS 🔒 (for information)

The pressure measured in the unit relative to the atmosphere. These values give an indication about the performance of the system calibration.

BOX SENSORS 🔒 (for information)

Measured values for Humidity Box Sensor.

ERROR LIST

Overview of error messages and/or warnings.

DUCO SERIAL NUMBER (for information)

Serial number of the DucoBox

SOFTWARE VERSION (for information)

In any communication with DUCO, you may be asked to communicate the software version of your DucoBox Energy Premium. Please keep this number to hand for any communication.

SOFTWARE UPLOAD

All components in the network can also receive a software update via the DucoBox. The 'Software update' selection field can be used to read out the percentage status of the update of these components.

SERVICE CODE

This code will enable the DUCO service team to read out the composition of your ventilation system and its paired components.

UNIT INFO (for information)

In any communication with DUCO, you may be asked to provide unit details such as correct name, type, country setting.

FILTER

FILTER STATUS

Remaining filter service life.

REPLACE FILTERS

Step-by-step instructions for replacing filters.

FILTER CLEANING

Step-by-step instructions to clean the filters.

INSTALLATION 🔒

WIZARD 🔒

Run this wizard to pair components with the system.

RESET NETWORK 🔒

This removes all paired control components from the network.

FACTORY RESET 🔒

This resets the entire system (= DucoBox Energy Premium + paired components) to factory settings. The calibration will be lost.

ADVANCED / CLOSE ADVANCED 🔒

Activate / deactivate advanced mode to show / hide functions with a padlock (🔒).

SETTINGS

COMFORT TEMPERATURE

The DucoBox Energy Premium will try to maintain the temperature in the home at the set value. The DucoBox Energy Premium also features a smart algorithm that will automatically adjust the comfort temperature depending on the outside temperature. This will maintain the temperature in the house at the most comfortable level possible for the resident.

With zoned control, a comfort temperature can be set for each zone.

UNIT CONTROL

Option to change the ventilation setting via the display menu.

PROGRAMME

A set timetable can be programmed into the ventilation unit. You can use this to increase or decrease the ventilation in the house at fixed times.

BYPASS

The DucoBox Energy Premium features a fully automatic bypass. This enables the house to cool down to the desired comfort temperature during summer nights. It is also possible to deactivate the bypass temporarily or completely to increase user comfort.

DATE & TIME

The DucoBox Energy Premium has a built-in clock, which is necessary for time-dependent controls.

LANGUAGE

The menu language can be changed to match the user's language. The following languages are available: Dutch, English (UK), French and German.

LAN SETTINGS

Platform where LAN settings can be defined. Only active when a Duco Connectivity Board is connected, AND there is a positive response to the IP address query.

MODBUS 🔒

Platform where Modbus settings can be defined. Only active when a Duco Connectivity Board is connected, AND there is a positive response to the Modbus address query.

CONFIG 🔒

Other settings.

FROST PROTECTION 🔒

Status of frost protection: **STAND-BY** or **ACTIVE**. See also page 26. Other settings such as **HEATER AUTO** or **OFF HEATER EXT** (pre-heater) **ABSENT** or **PRESENT**

NIGHTBOOST 🔒

Activate or deactivate and set parameters of the nightboost function.

BUILDING TYPE* 🔒

Selection of the parameter **HOUSE** (landed) or **FLAT** (non-landed).

CALIBRATION 🔒

WIZARD 🔒

Run this wizard to calibrate air flow rates correctly.

VERIFY HIGH LEVEL 🔒

Sets the system temporarily to high level to enable calibrated air flow rates to be verified. Active only if adjustment has been carried out.

* Only if at the first start-up, when choosing the country, "the Netherlands" was selected.

10 Passive House

The DucoBox Energy Premium 325 with heater can be used in a Passive House / low energy home that is energy efficient and provided with a comfortable indoor air climate. There are a number of requirements to meet Passive House certification:

• **DucoBox Energy Premium 325 with heater**.

• **Frost protection must be set to Passive House mode.** This disables the unbalance method as frost protection (see page 26) to ensure a constant supply of fresh air. This setting can only be changed by the installer.

• **During the warm (summer) months, it ought to be possible to switch the DucoBox Energy Premium off** to minimise power consumption. This can be done by placing a switch between the power and the DucoBox Energy Premium or connecting the DucoBox Energy Premium to a separate fuse. NB: ensure there is sufficient natural ventilation (e.g. open windows) whenever the unit is switched off. Take account of local legislation as well in all cases.

11 Maintenance & service

Consult the maintenance instructions at **www.duco.eu** and watch the videos at **www.duco.tv** for more information.

For service problems as a user:

Please contact your installer. Keep the serial number of your product on hand.

For service problems as an installer:

Please contact your retailer of DUCO products. Keep the serial number of your product on hand.

The serial number is located on the sticker at the top of the DucoBox Energy Premium or can be consulted via the display `INFO - DUCO SERIAL NUMBER`.

Error code management

In case of errors (`ERROR`) or warnings (`WARNING`) the following icon appears on the display of the unit ⚠.

The messages can be consulted via the display menu `INFO – ERROR LIST`. An overview of codes and associated actions can be found on the website www.duco.eu.

Via the display menu, under `SETTINGS-CONFIG-DUCOBOX ENERGY-UC ERROR MODE` , the control principle can be selected for displaying errors or warnings via the linked sensors and/or controls. There is a choice between:
• `DISABLED`: not activated - no error messages via linked controls or sensors. The error codes can then only be detected by the user via the display.
• `ON_INPUT`: at `ERROR` or `WARNING` when operated, a red or orange LED flashes for a few seconds on the relevant sensor (excl. sensors without control) or user controller (excl. battery-operated controls). This remains active until the error code is handled.
• `AUTO`: at `ERROR` or `WARNING` a red or orange LED appears on all linked sensors or controls (excluding battery-operated controls). The LED remains lit until the error code is handled.

Cleaning/replacing filter

To clean or replace the filter, a Wizard can be followed via the display:
• **SETTINGS – FILTER – CLEAN FILTER**
• **SETTINGS – FILTER – REPLACE FILTER**

If a Coarse 65%/ ePM1 55% filter set is applied, the ePM1 55% filter should be fitted in the supply stream (SUP). Pay close attention to the version of the unit (L or R) - see illustration.
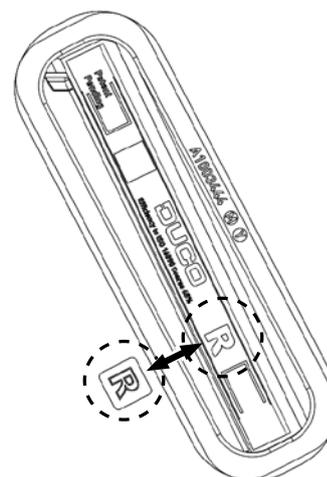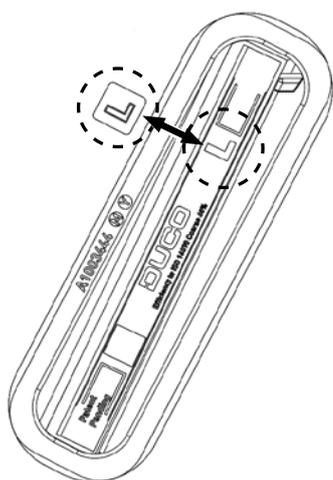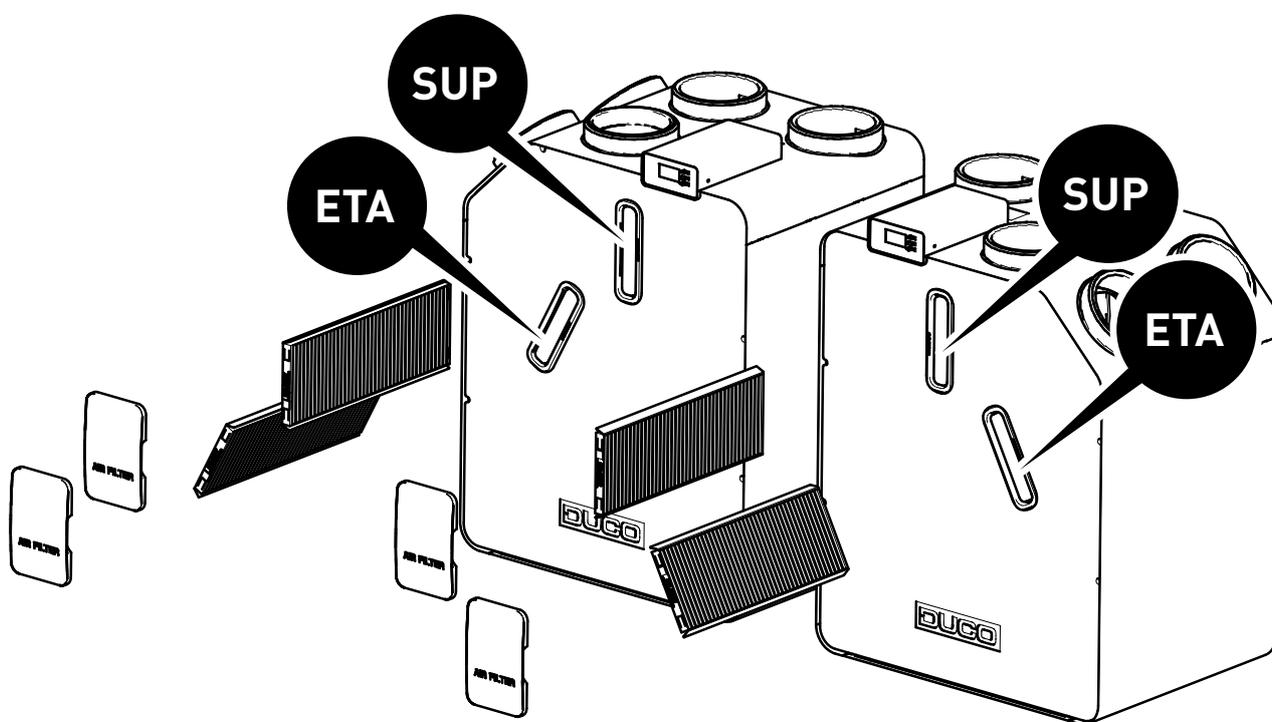
How to replace filters?
Left-hand filter: make sure the 'L' on the filter and on the DucoBox are lined up nicely

How to replace filters?
Right-hand filter: make sure the 'R' on the filter and on the DucoBox are lined up nicely

12 Warranty

All warranty conditions concerning the DucoBox and DUCO's ventilation systems can be found on the DUCO website.
All complaints are to be reported to DUCO by the DUCO distributor with a clear description of the complaint and the order/invoice number under which the products were delivered. To do so, please fill out the complaint registration form, found on the DUCO website, and the serial number and send it to service@duco.eu.

13 Legislation

Product fiche and energy labels can be consulted and downloaded at www.duco.eu.

Simplified EU declaration of conformity

CE Hereby DUCO Ventilation & Sun Control declares that the radio equipment type DucoBox Energy Premium is in compliance with Directive 2014/53/EU.

The full text of the EU declaration of conformity is available at the following internet address:
en.duco.eu/ducobox-energy-premium

Frequency band	868,3 MHz
Maximum radio frequency power	0,4 dBm

Installed by:

DUCO