DucoBox Energy Comfort (Plus)

ENGLISH en

Installation manual



Video instructions
www.duco.tv

L2003212 (revision H | 16.07.2026)

DUCO

Table of contents

01 Introduction ... 3
- 01.A Versions ... 3
- 01.B Operation ... 3
- 01.C Dimensions ... 4

02 Regulations and safety instructions ... 7

03 Components and connections ... 9
- 03.A Parts ... 9
- 03.B Connections ... 10

04 Wiring ... 11
- 04.A Wiring diagram ... 11
- 04.B Mounting external power supply ... 11
- **04.C Connecting cables to the PCB** ... 12
- **04.D Options power supply** ... 14
- 04.E RF (wireless communication) ... 14
- 04.F Wired (wired communication) W ... 14
- 04.G Modbus TCP/IP ... 14
- 04.H Perilex ... 14

05 Mounting ... 15
- 05.A General guidelines ... 15
- 05.B Mounting DucoBox Energy Comfort (Plus) ... 16
- 05.C Humidity Sensor (optional) ... 17
- 05.D Air ducts ... 18
- 05.E External multi-zone valves (optional) ... 20
- 05.F Pre-Heater (optional) ... 21
- 05.G Vents ... 21

06 Commissioning ... 22
- 06.A DucoBox Energy Comfort (Plus) start-up ... 22

07 Electrical installation ... 24
- 07.A Pairing components ... 24
- 07.B Removing / replacing components ... 25
- 07.C Tips ... 26

08 Air-side calibration ... 27
- 08.A Presetting vents ... 27
- 08.B Calibrating flow rates ... 28
- 08.C Checking ... 29
- 08.D Copying calibration data in case of serial construction ... 29

09 Display menu ... 30
- 09.A Display overview and operation ... 30
- 09.B Change ventilation mode ... 31
- 09.C Settings for the resident ... 31
- 09.D Advanced settings ... 33
- 09.E Menu structure ... 34

10 Passive house ... 35

11 Maintenance & service ... 35

12 Warranty ... 37

13 Legislation ... 37

Translation of the original instructions

For information regarding warranty, maintenance, technical data, etc., see www.duco.eu. 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

Vero DUCO - Handelsstraat 19 - 8630 Veurne - Belgium tel +32 58 33 00 33 -info@duco.eu- www.duco.eu

DUCO

01 Introduction

The DucoBox Energy Comfort (Plus) 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 Comfort (Plus) 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 vents / grilles for the supply of preheated air to the dry rooms[1].
- Extract vents / grilles for the extraction of stale indoor air from wet rooms[2].

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

Scope of supply

Before starting to install the heat recovery unit, check to ensure it is complete and undamaged.
The scope of supply of the DucoBox Energy Comfort (Plus) type heat recovery unit comprises the following components:
- DucoBox Energy Comfort (Plus)
- Fixing bracket
- Installation manual
- User manual
- 2 x DucoBox Energy Comfort (Plus) Filter ISO 16890 Coarse 65 %(≈ G4)

01.A Versions

Product	Article number
DucoBox Energy Comfort D250	0000-7073
DucoBox Energy Comfort D250 Perilex	0000-7074
DucoBox Energy Comfort D250 UK	0000-7075
DucoBox Energy Comfort Plus D250	0000-7077
DucoBox Energy Comfort Plus D250 Perilex	0000-7078
DucoBox Energy Comfort Plus D250 UK	0000-7079
DucoBox Energy Comfort D225	0000-4655
DucoBox Energy Comfort D325	0000-4649
DucoBox Energy Comfort D325 Perilex	0000-4659

Product	Article number
DucoBox Energy Comfort D325 UK	0000-4658
DucoBox Energy Comfort D400	0000-4707
DucoBox Energy Comfort D400 UK	0000-4757
DucoBox Energy Comfort Plus D350	0000-4704
DucoBox Energy Comfort Plus D350 UK	0000-4758
DucoBox Energy Comfort Plus D450	0000-4705
DucoBox Energy Comfort Plus D450 UK	0000-4759
DucoBox Energy Comfort Plus D550	0000-4706
DucoBox Energy Comfort Plus D550 UK	0000-4923

Optional accessories

Product	Article number
Siphon flat (Energy)	0000-4376
Duco Connectivity Board	0000-4810
Humidity Sensor DucoBox Energy Comfort (Plus)	0000-4723
Mounting chair standing (Energy Comfort (Plus) D250)	0000-7134
Mounting Chair Standing (Energy Comfort 325)	0000-4546
Mounting Chair Standing (Energy Comfort (Plus)/Premium)	0000-4740
Multi-zone valve DucoBox Energy Sensorless D125	0000-4761
Multi-zone valve DucoBox Energy Sensorless D160	0000-4760
Pre Heater DucoBox Energy Comfort (Plus)/ Sky 1150 W	0000-5011
Pre Heater DucoBox Energy Comfort (Plus)/ Sky 1150 W UK	0000-7003
Pre Heater DucoBox Energy Comfort (Plus) 1425 W	0000-4807
Pre Heater DucoBox Energy Comfort (Plus) 1425 W UK	0000-4825
Connection piece with joint D125/D125 (M/M)	0000-7086

Product	Article number
Connection piece with joint D160/D125 (M/M)	0000-7087
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
Connection piece 45° with joint D160/D160 (M/M)	0000-4949
Insulated connection piece with joint D125/D125 (M/M)	0000-7135
Insulated connection piece with joint D160/D125 (M/M)	0000-7136
Insulated connection piece with joint D160/D160 (M/M)	0000-7139
Insulated connection piece with joint D180/D160 (M/M)	0000-7140
Insulated connection piece with joint D180/D180 (M/M)	0000-7141
Insulated connection piece with joint D200/D180 (M/M)	0000-7142
Insulated connection piece 45° with joint D160/D160 (M/M)	0000-7143

01.B Operation

Bypass

The bypass ensures, should it be necessary, that there is no heat transfer between air extracted and supplied. This means that the house cools down in a controlled and gradual manner. This function is active mainly in the summer. The bypass opens when the indoor temperature rises above the set comfort temperature **(set to 21.5 °C by default)** and the outdoor temperature is **above 10 °C**.

As the comfort temperature in the sleep zone and the day zone can be different, it is possible to define different comfort temperatures in zone-controlled systems, e.g.: 21.5 °C for the day zone and 18 °C for the night zone.

The unit contains 2 bypasses. Either only the right-hand bypass or only the left-hand bypass will serve, depending on the selection of L or R in the initial installation screen. The software will always close the non-selected bypass.

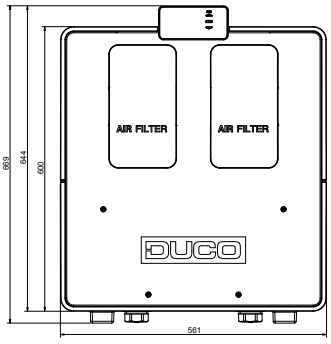
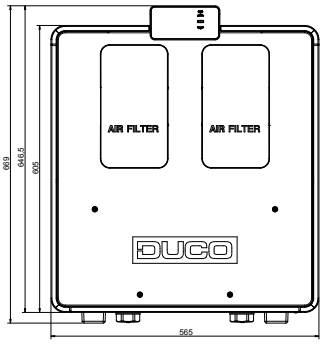
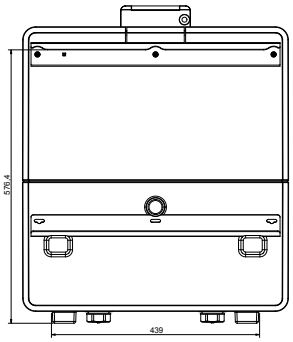
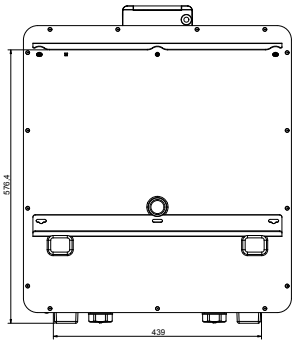
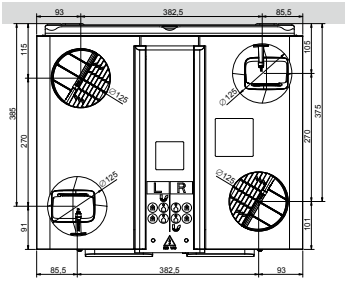
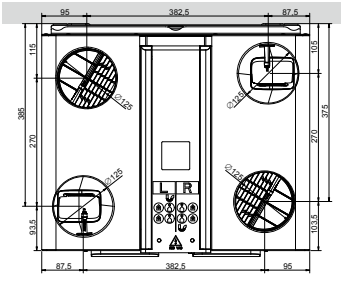
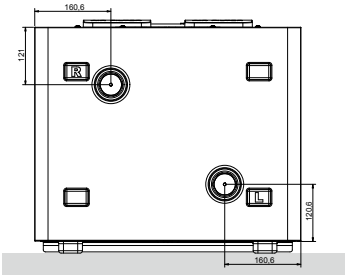
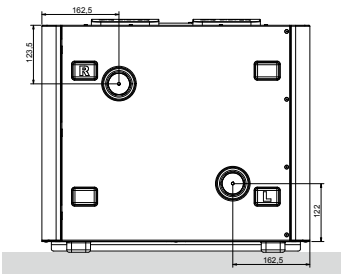
Frost protection

To protect and keep the unit operating properly at very low outdoor temperatures, it is equipped with frost protection as standard. The supply flow rate is slowed down gradually so that more warm air passes over the heat exchanger.
This prevents the heat exchanger from freezing up. If the imbalance is insufficient to prevent freezing up, the unit is temporarily switched off.
Optionally, you can also choose to apply an external Pre-Heater. This ensures that imbalance control or temporary shutdown is delayed as long as possible.

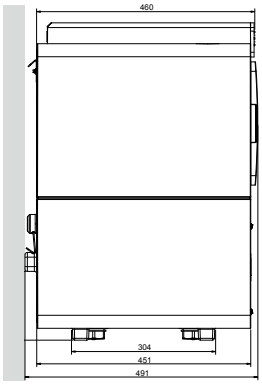
Constant Flow

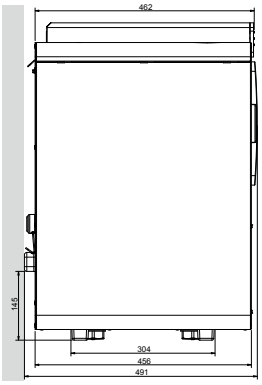
The unit features constant-flow control. This ensures that the air flow rate between the supply and extract side remains constant when the filters become dirty.

01.C **Dimensions**

	Comfort D250	Comfort Plus D250
Front view		
Rear view		
Top view		
Bottom view		

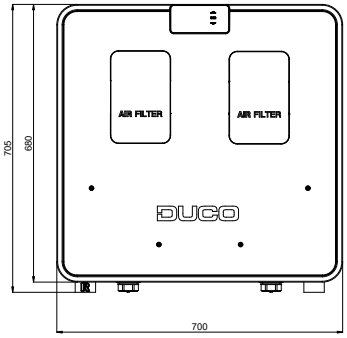
Side view



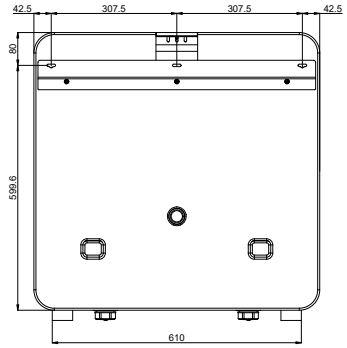


Comfort D225 - D325

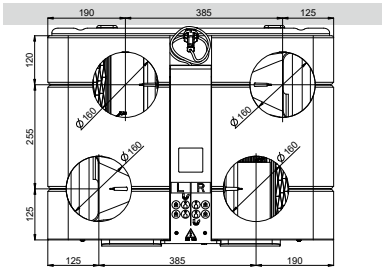
Front view



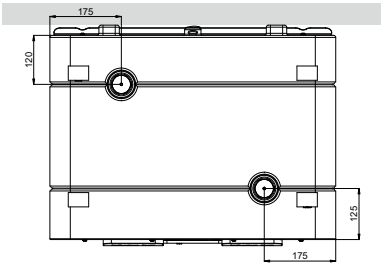
Rear view



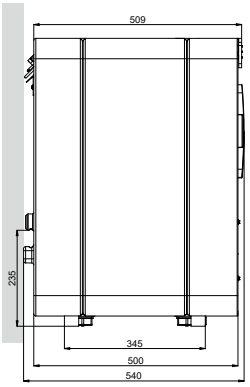
Top view



Bottom view

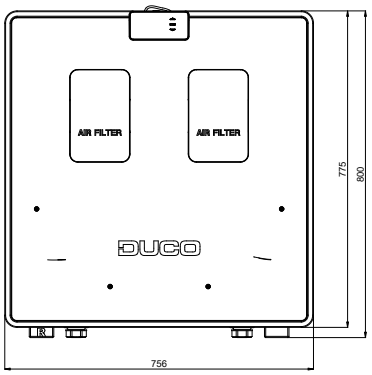


Side view

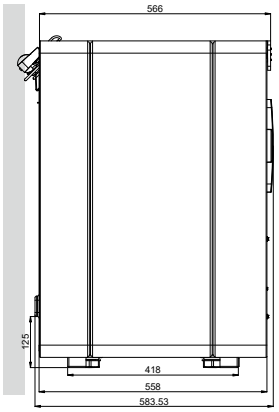


Comfort D400

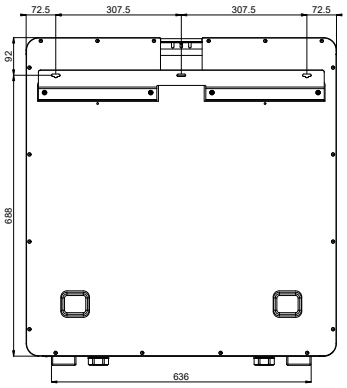
Front view



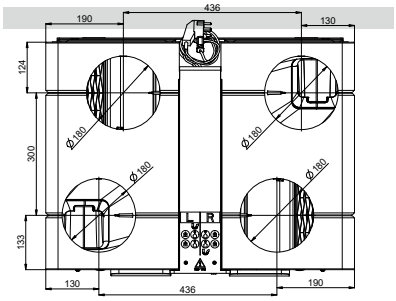
Side view



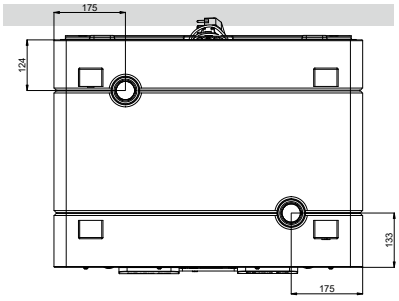
Rear view



Top view

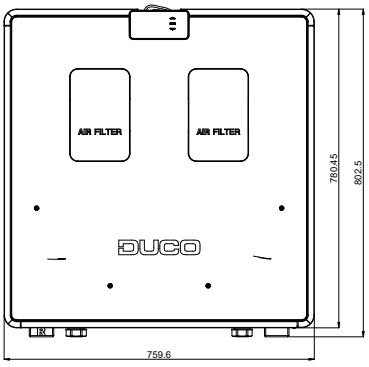


Bottom view

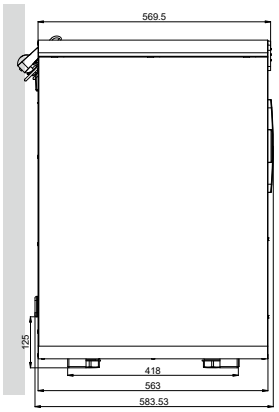


Comfort Plus D350 - Plus D450 - Plus D550

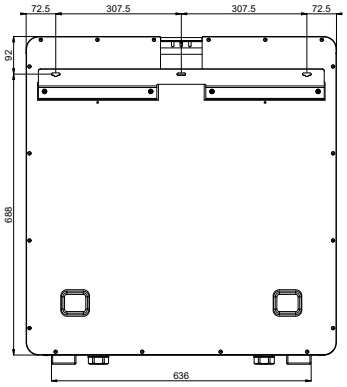
Front view



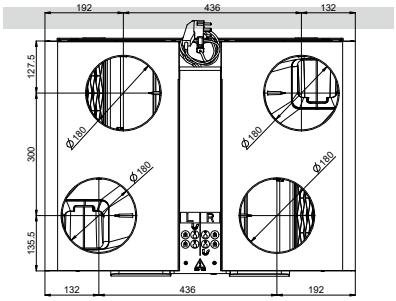
Side view



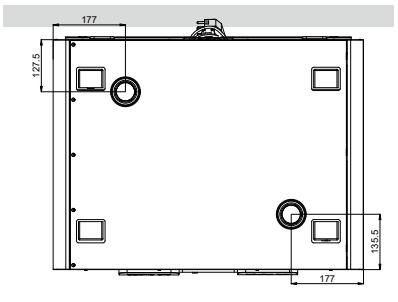
Rear view



Top view



Bottom view



02 Regulations and safety instructions

The installer is responsible for the installation and commissioning of the unit.

Do not install this product in areas where the following are present or could occur:
- **Excessively greasy atmosphere.**
- **Corrosive or flammable gases, liquids or fumes.**
- **Room air temperature above 40 °C or below 2°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 Comfort (Plus) must not be connected to a (motorless) extractor hood or tumble dryer.**

Ensure that the electrical power supply corresponds to 230 V, one per single-phase earthed, 50/60 Hz, AC system. The unit must be connected to an earthed and fused wall socket.

Mount the unit, preferably in an enclosed space, with the correct screws and mounting bracket on 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 must ensure that the fan unit is placed at least 3 m away from a chimney pipe.

The unit must not be used in places where it could be subject to water jets.

Certain situations may require the use of acoustic damping material.

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.

Handle electrical equipment with care.
- Never touch the unit with wet hands.
- Never touch the unit 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.

This unit must only be installed indoors in a frost-free room, protected from the elements. The ambient temperature must always remain between +2°C and +40°C.

Do not place any objects on the unit.

Do not use the unit to extract water heaters, heating systems, … .

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 adhere to the safety instructions in the manual when installing the unit. Failure to adhere to these safety instructions, warnings, notes and instructions could result in damage to the DucoBox Energy Comfort (Plus) or in personal injury for which DUCO NV cannot be held liable.

The DucoBox Energy Comfort (Plus) must be installed in accordance with the general and locally applicable construction, safety and installation regulations of municipal and other authorities.

Only an accredited installer is permitted to install, connect and commission the DucoBox Energy Comfort (Plus), as described in this manual.

Keep the manual close to your unit.

Maintenance instructions must be followed carefully to prevent damage and wear.

It is recommended to take out a maintenance contract so that the unit is regularly inspected and cleaned. The unit must be mounted in a touch-safe manner. This means, among other things, that under normal operating conditions, no one can reach moving or live parts of the fan without taking a deliberate action to do so, such as:

- Taking off the lid.
- Taking the motor module out of the fan after removing the lid.
- Disconnecting a duct or control valve from the connection opening during normal operation.

It ought to be impossible to touch the fan by hand. Therefore, ductwork must always be connected to the DucoBox Energy Comfort (Plus) before commissioning. Therefore, ductwork of at least 900 mm must be connected to the unit.

The DucoBox Energy Comfort (Plus) meets the legal requirements for electrical equipment.

Before starting work, always ensure that the unit is disconnected 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 must operate permanently, which means that the DucoBox Energy Comfort (Plus) must never be switched off (legal obligation).

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

This unit is not intended for use by people (including children) with reduced physical, sensory or mental capabilities, or who lack experience of know-how, unless they are supervised or have been given instructions on the use of the unit by a person who is 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 service 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[3]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.

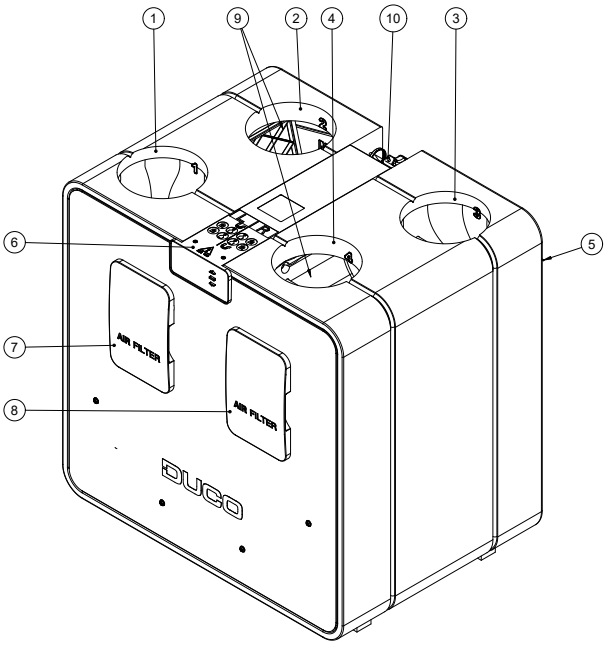
Check that the voltage indicated on the type plate matches the local mains voltage before connecting the unit. You will find the type plate on top of the unit.

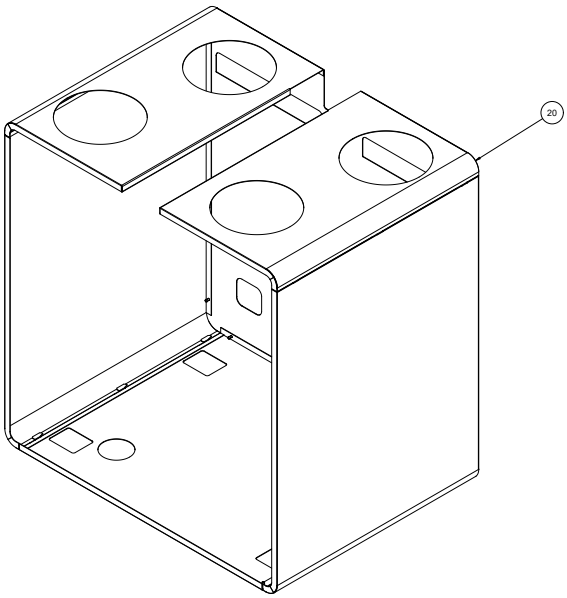
3. ESD = electrostatic discharge

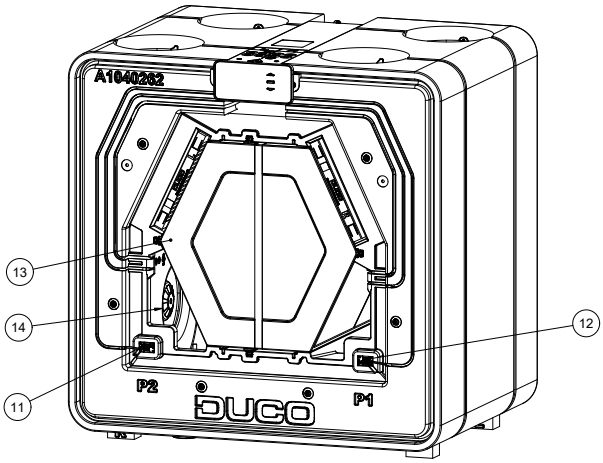
03 Components and connections

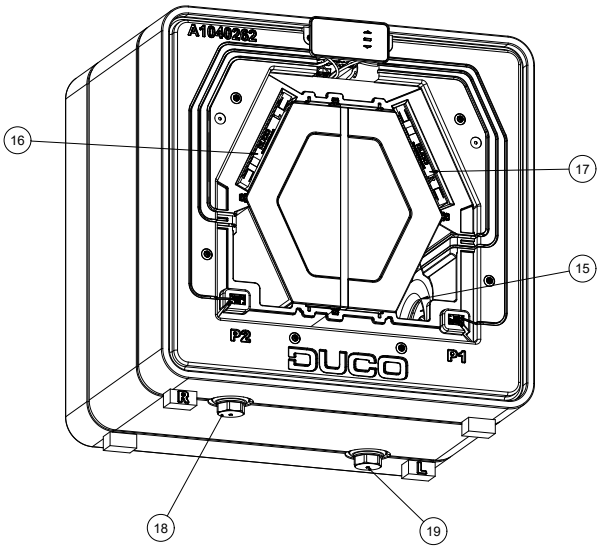
03.A **Parts**

① Air duct connections
② Air duct connections
③ Air duct connections
④ Air duct connections
⑤ Wall-mounted suspension bracket
⑥ Control unit with integrated operation
⑦ Air filter cover
⑧ Air filter cover
⑨ Bypass (valve)
⑩ Power cable 230 VAC
⑪ Pressure sensor
⑫ Pressure sensor
⑬ Heat exchanger
⑭ Fan
⑮ Fan
⑯ Air filter Coarse 65 % (≈ G4)
⑰ Air filter Coarse 65 % (≈ G4)
⑱ Condensate drain connection
⑲ Condensate drain connection
⑳ Sheet metal (Plus variants only)



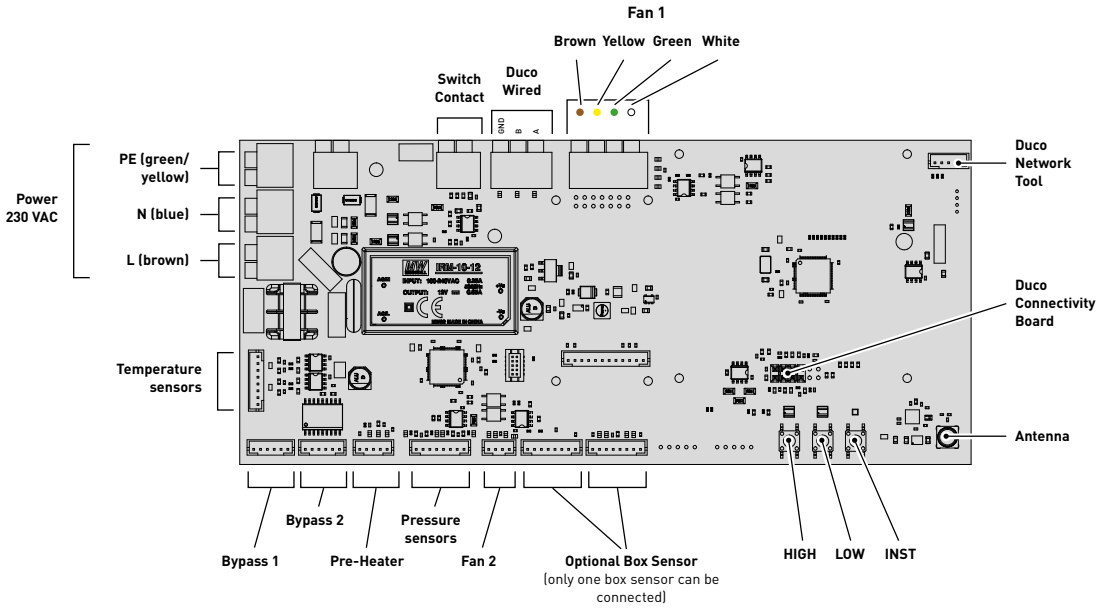






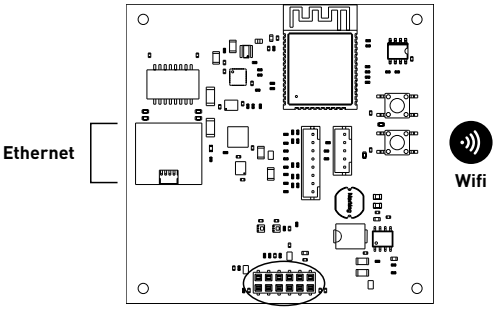
03.B **Connections**

DucoBox Energy Comfort (Plus) printed circuit board (PCB)



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.

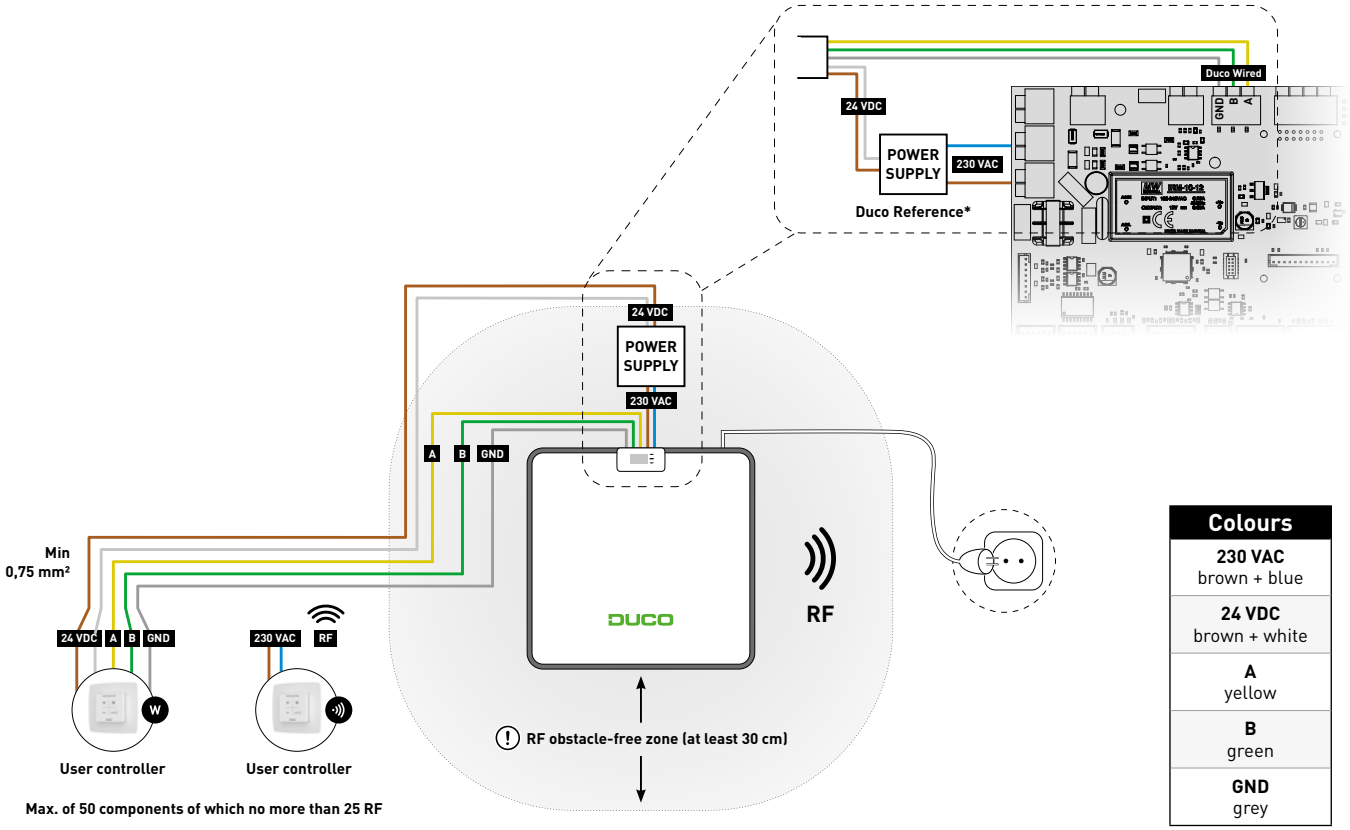


04 Wiring

The DucoBox Energy Comfort (Plus) is able to communicate with components via a wireless (RF) or wired link. Both types of communication can be combined in one system.

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

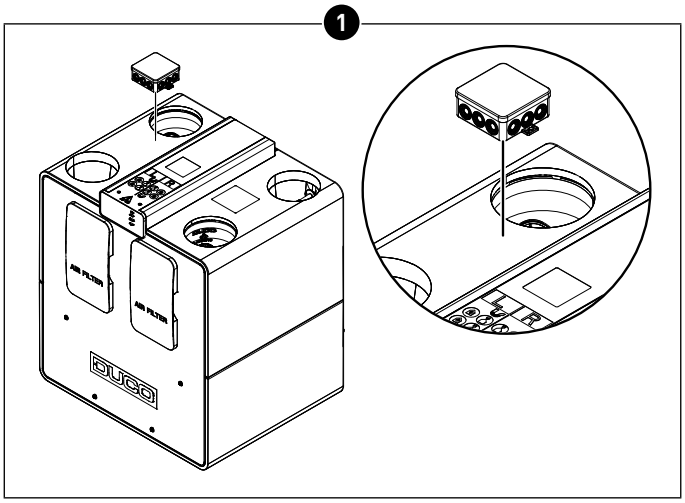
04.A Wiring diagram



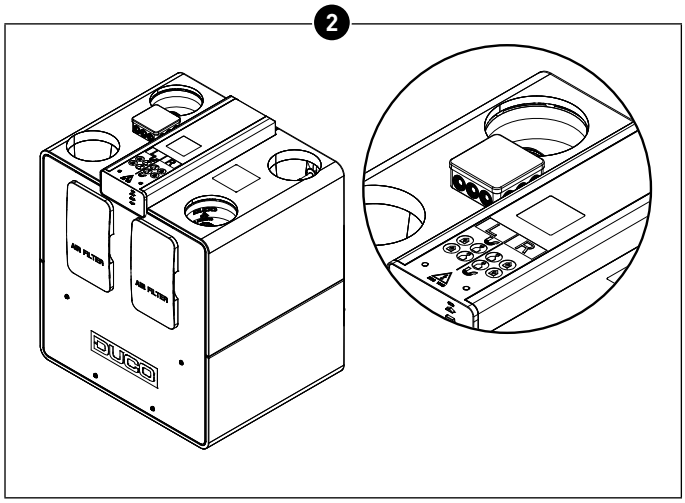
* Connecting a Power Supply to the 230 VAC connection of the DucoBox can only be done with a Power Supply tested and approved by DUCO. Any references other than those offered by DUCO will void the guarantee of proper operation.

04.B Mounting external power supply

For type D250

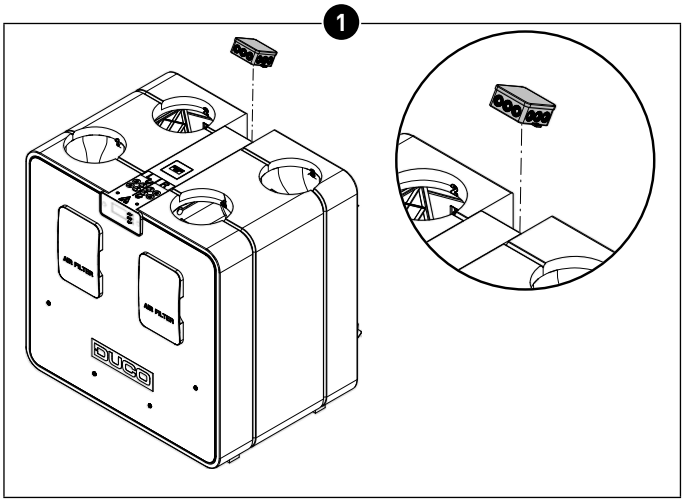


D250: mount the junction box with the transformer on the unit next to the display module.

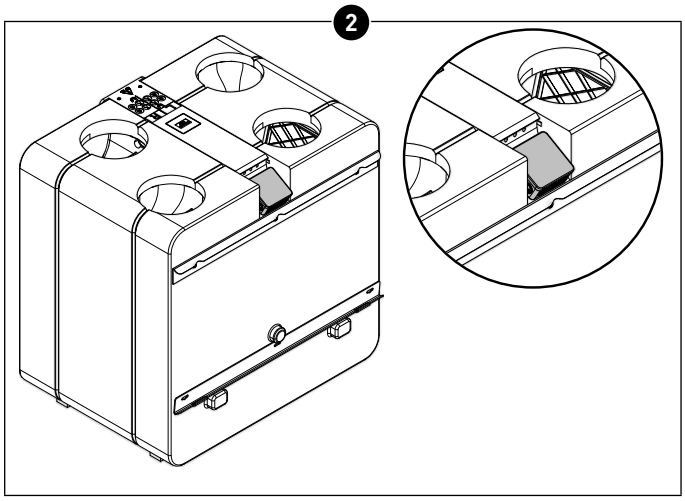


D250: mounted junction box with transformer next to the display menu.

For types D225 and D325

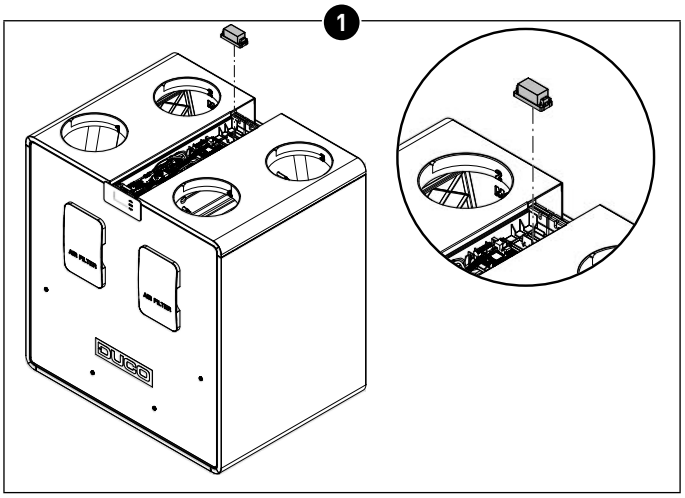


D225-D325: Mount the junction box with the transformer on the unit.

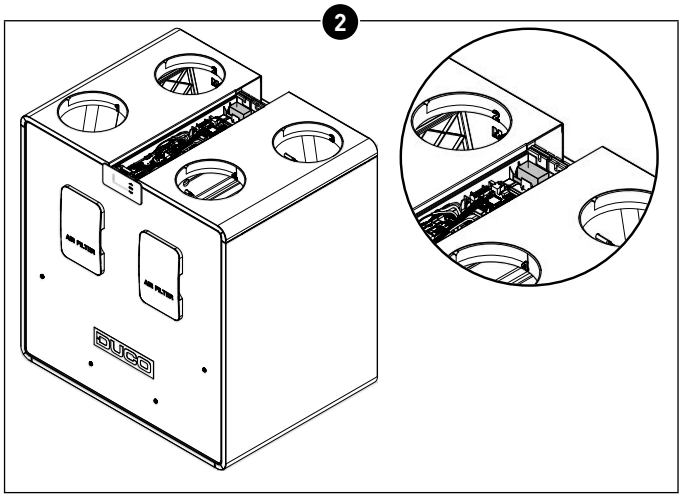


D225-D325: Mounted junction box with transformer.

For types D400 and the Plus variants

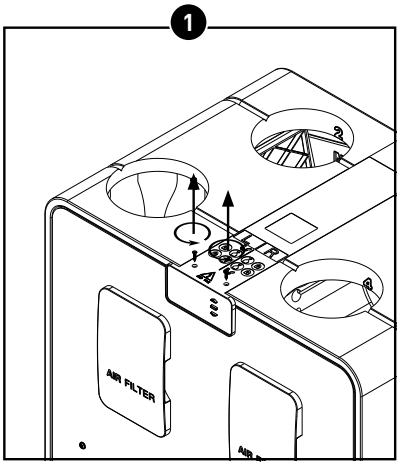


D400 and Plus variants: Remove the transformer from the junction box and place it directly at the provided location on the printed circuit board.

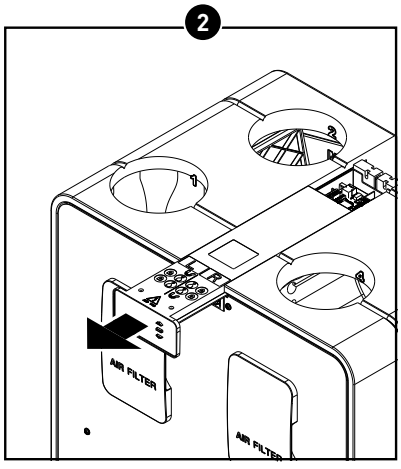


D400 and Plus variants: Mounted transformer.

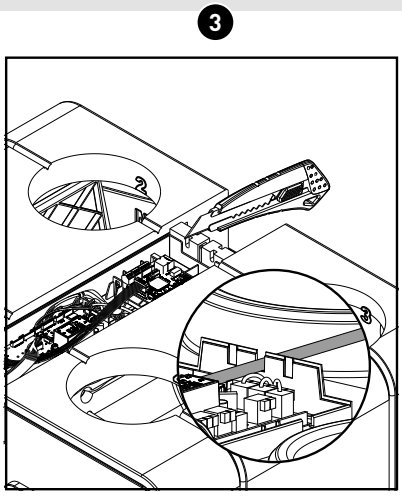
04.C Connecting cables to the PCB



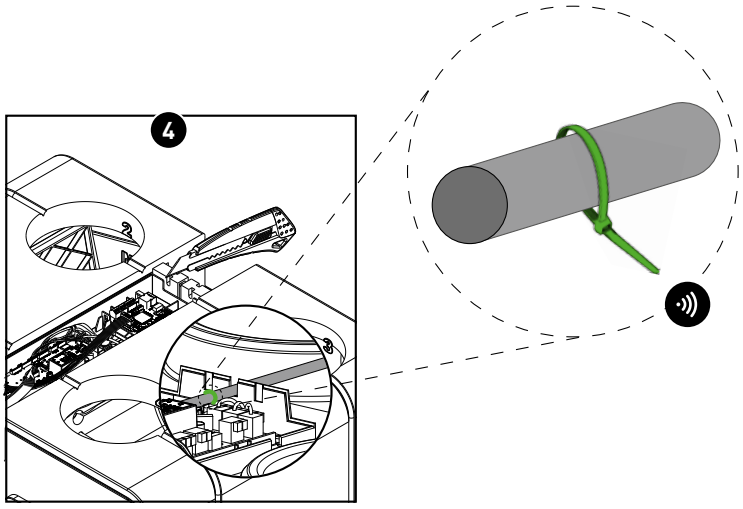
Loosen the screws.



Slide the cap forwards.



Cut off one or more of the provided pieces from the housing to connect cables according to the wiring diagram.



Provide strain relief (for example with a tension strap) at 230 V connections (for example with connecting a Power Supply to the printed circuit board).

04.D **Options power supply**

For power supply, DUCO offers two options:

DESCRIPTION	ARTICLE NUMBER
Power Supply 230 VAC - 24 VDC / 20 W + casing	0000-4763
Duco Wired power adapter 230 VAC - 24 VDC / 20 W	0000-4762

04.E **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, take into account objects such as walls, concrete an metal. All components (except those which are battery powered) also act as repeaters. Signals from components that are unable to make a (strong) connection with the controller are forwarded automatically via no more than one other non-battery-powered component (= hop). Please refer to information sheet RF communication (L8000018) at www.duco.eu for further information.

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

04.F **Wired (wired communication)** W

Wired components can be daisy-chained (= recommended). This means that a separate cable will not be required for each component. A single 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.G **Modbus TCP/IP**

Communication with building management systems is possible, for reading out information as well as controlling the ventilation system. For this purpose, the DucoBox Energy Comfort (Plus) must be equipped with an optional Duco Connectivity Board. Consult the Modbus TCP/IP instructions at www.duco.eu.

04.H **Perilex**

The Perilex variants of DucoBox Energy Comfort (Plus) can be controlled via a wired controller with Perilex connection. Please consult the manual 'Quick-Start Perilex plug' via the DUCO website.

05 Mounting

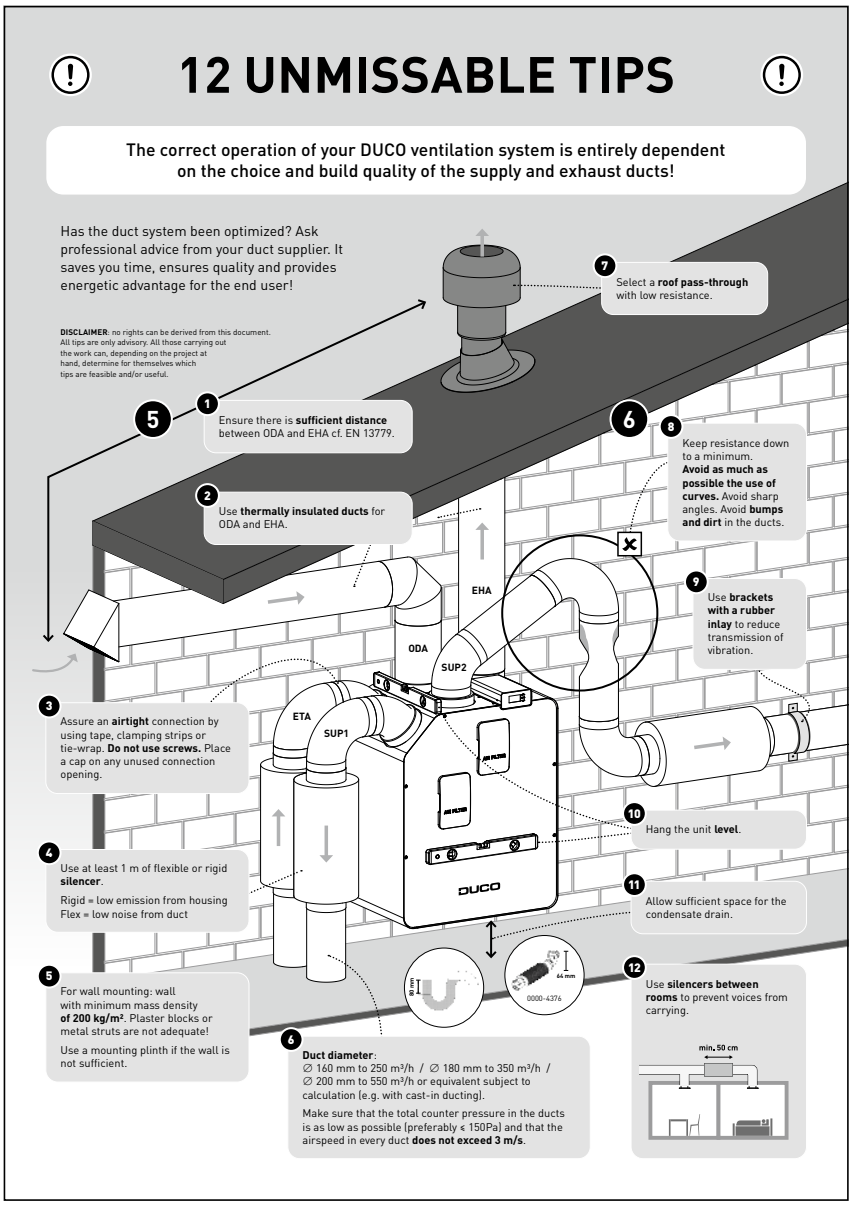
05.A General guidelines

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

Before starting up the unit, it must be connected to a duct network to prevent you from touching 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 an airtight duct network.
- When laying out the ducts, you should make as few bends as possible. That is how you reduce resistance. The system is based on a maximum resistance of 150 Pa (for D225, (Plus) D250 and D325) and 200 Pa (for D400, Plus D350, Plus D450 and Plus D550).
- 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 always 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: EN 13779:2007 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. All ducts in an uninsulated, unheated space must also be insulated.
- Always install the extract duct on the house side (ETA) draining towards the unit to avoid any build-up of condensation in the duct. A lot of moist air can be extracted while showering or cooking.
- It is better to choose the supply of outdoor air on the north side, to avoid drawing in toowarm air inside during the summer months.
- 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 intake side of the supply.

Also refer to our "12 unmissable tips" for an overview of the most imporant points to consider.



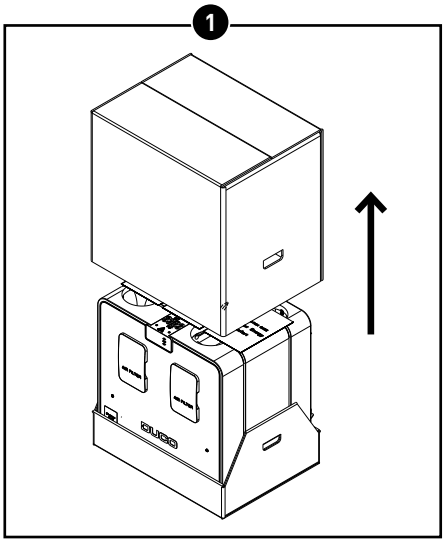
05.B Mounting DucoBox Energy Comfort (Plus)

Keep **at least 60 to 100 cm** clear at the front of the DucoBox Energy Comfort (Plus) to allow maintenance of the unit.

Wall mounting

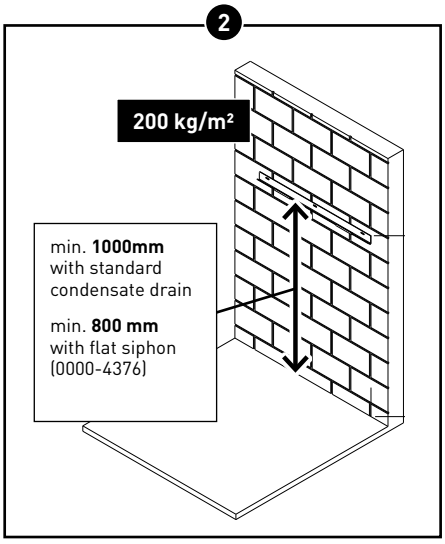
The DucoBox Energy Comfort (Plus) can be mounted on a wall, or if no suitable wall is available, the DucoBox Energy Comfort (Plus) can be placed on an optional support frame.

1



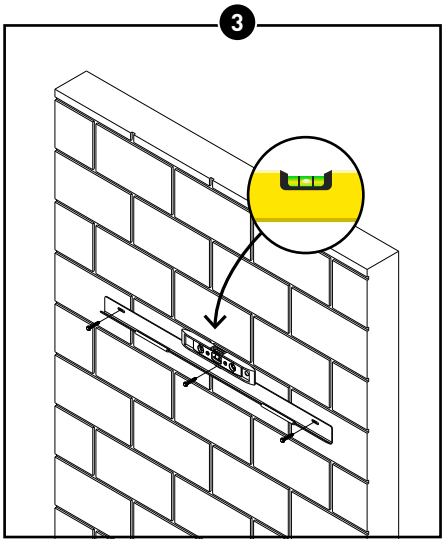
Slide the cardboard packaging off the unit. If the unit is wall mounted, the cardboard can be removed from under the unit once it has been hung.

2



The unit must be mounted vertically against a solid wall with a minimum mass of **200 kg/m²** for a vibration-free suspension. Gypsum blocks or metal studs do not suffice! The type of condensate drainage and air ducting chosen will determine the exact height.

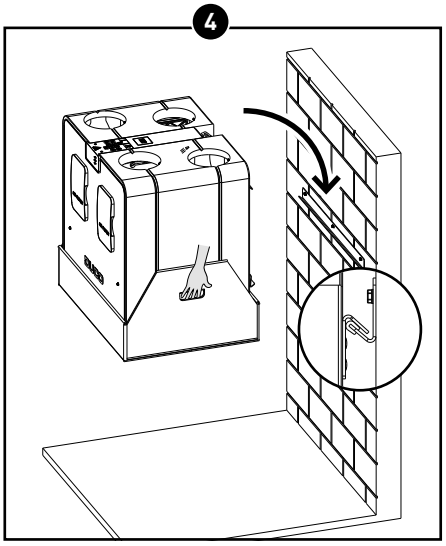
3



Fasten the suspension bracket horizontally to the wall, making sure it hangs **level**. Also keep in mind that the screws* and plugs* are suitable for the surface and the weight of the unit (Max. 48 kg).

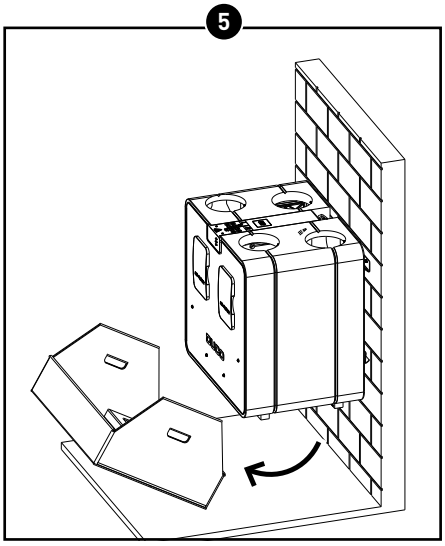
* screws and plugs not included

4



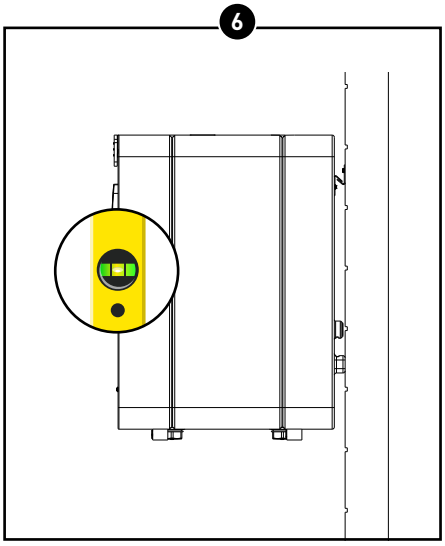
Hook the unit onto the suspension bracket. Use the handles in the cardboard at the bottom of the unit.

5



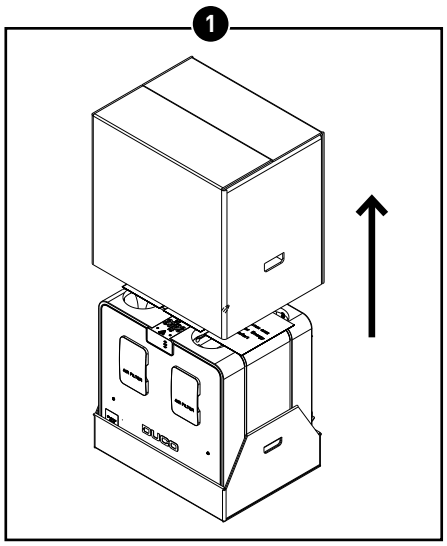
Remove the cardboard from the bottom of the unit.

6

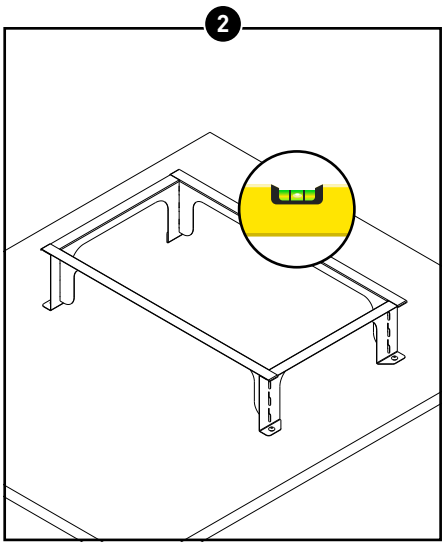


Check whether the unit is **plumb** against the wall. This ensures you have a good condensate drain.

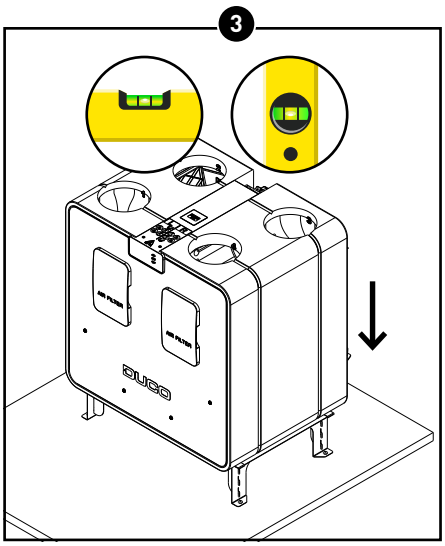
Floor mounting



Slide the cardboard packaging off the unit.



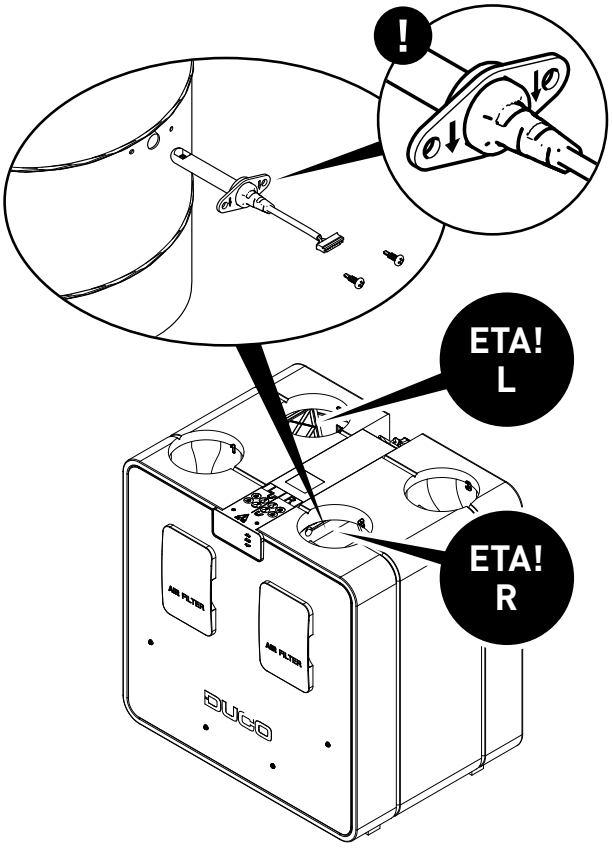
Fit the optional mounting chair in accordance with the manual supplied with it and ensure that it is positioned on a solid, **flat surface**.



Place the DucoBox Energy Comfort (Plus) on the mounting chair and check again that it is **level**. This ensures you have a good condensate drain.

05.C Humidity Sensor (optional)

The optional, separately available Humidity Sensor (0000-4723) is placed in the extract air duct of the DucoBox Energy Comfort (Plus) and centrally measures the humidity of the air extracted from the house. The sensor has a 2 m connection cable and is powered from the DucoBox. A DucoBox Energy Comfort (Plus) contains a maximum of one Humidity sensor with central measurement in the ducts. Local moisture measurement can be done with optional Humidity (Room) Sensors.



Video instructions
www.duco.tv

Connecting the Humidity Sensor to the DucoBox Energy Comfort (Plus)

1	Make sure the DucoBox Energy Comfort (Plus) is not under current.
2	Provide a 10.5-12 mm bore in (the connection piece of) the extraction duct (ETA) at a location no further than what can be bridged with a 2-metre connection cable. Attention: the position of the ETA duct depends on the chosen settings for starting the unit (see page 22).
3	Slide the moisture sensor into the borehole. Make sure that the arrow marks on the sensor point in the direction of the airflow (= pointing towards the DucoBox).
4	Attach the sensor with the self-tapping screws provided. Make sure the connection flange is pressed against the duct so that the assembly is airtight.
5	Connect the cable of the Humidity Sensor to the printed circuit board (see 'Connections' on page 10). The DucoBox Energy Comfort (Plus) will automatically recognise the Humidity Sensor when the device starts.

05.D **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 that the total counter pressure in the ducts is as low as possible (preferably ≤ 150Pa) and that the air velocity in every duct **does not exceed 3 m/s**.

Desired flow rate (m^3/h)	Minimum recommended duct diameter (mm)
0-30	∅ 100
30-150	∅ 125
150-250	∅ 160
250-350	∅ 180
350-550	∅ 200

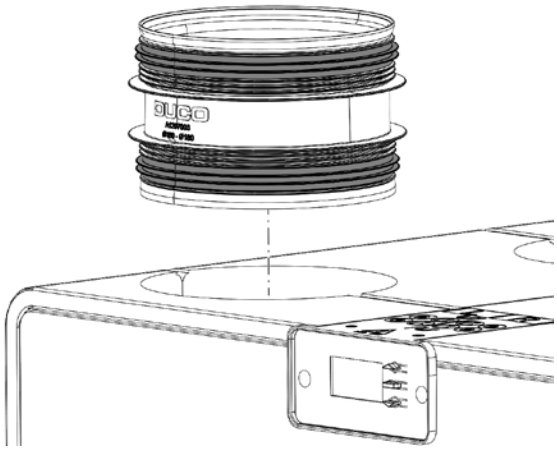
Integrating connection pieces

Based on the chosen duct diameter, connect the appropriate connection pieces (with joint) to the ventilation unit. The 4 connection nozzles on the ventilation unit have a diameter of ∅ 125 (F) for DucoBox Energy D250, ∅ 160 (F) for DucoBox Energy D225/D325 and ∅ 180 (F) for all other versions.

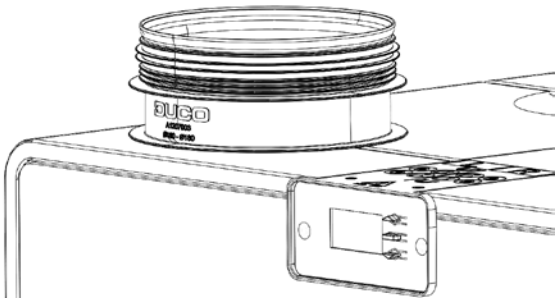
Choice of connection pieces (with joint):

Description	Article number
Connection piece with joint D125/D125 (M/M)	0000-7086
Connection piece with joint D160/D125 (M/M)	0000-7087
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
Connection piece 45° with joint D160/D160 (M/M)	0000-4949
Insulated connection piece with joint D125/D125 (M/M)	0000-7135
Insulated connection piece with joint D160/D125 (M/M)	0000-7136
Insulated connection piece with joint D160/D160 (M/M)	0000-7039
Insulated connection piece with joint D180/D160 (M/M)	0000-7040
Insulated connection piece with joint D180/D180 (M/M)	0000-7041
Insulated connection piece with joint D200/D180 (M/M)	0000-7042
Insulated connection piece 45° with joint D160/D160 (M/M)	0000-7043

The connection pieces can be connected airtight without additional fasteners.



Push the connection piece into the unit.

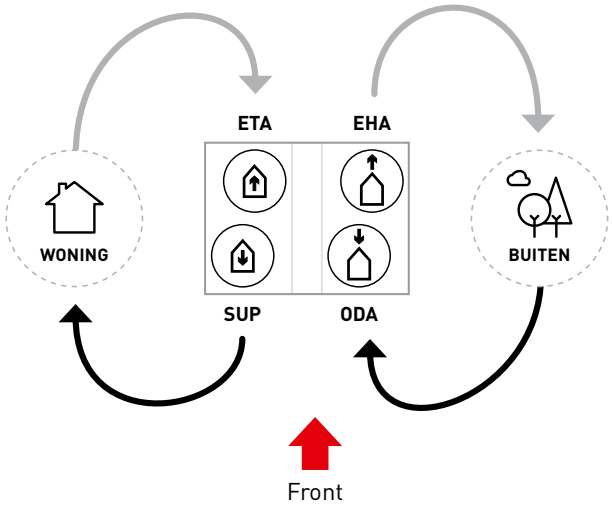


Push the connection piece into the unit up to the stop flange.

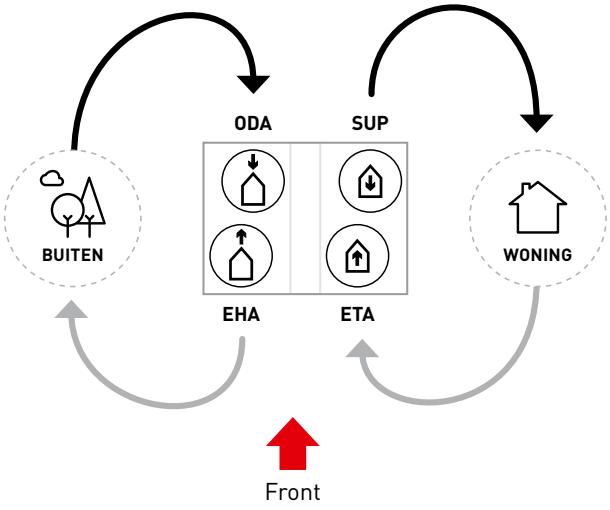
Connecting air ducts

When connecting the channels, you can select either the LEFT-HAND configuration or the RIGHT-HAND configuration. This selection must be confirmed when you first boot the unit (see page 22). Air duct connections are also indicated on the DucoBox Energy Comfort (Plus) by means of stickers.

Instelling LINKS



Instelling RECHTS



Verse lucht Vervuilde lucht

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	Extract air from the house to the unit		**EHA** Exhaust Air	Exhaust air from the unit to outdoors

To ensure proper operation of the fans, a minimum resistance of **± 10 Pa is required on the air ducts for** air supply (ODA) and exhaust (EHA). If this minimum resistance cannot be achieved with the standard ducts and wall or roof penetrations, it is advisable to add a resistance element, such as a restriction in the ducts, an iris valve, or a silencer with fillers for pressure build-up ...

05.E External multi-zone valves (optional)

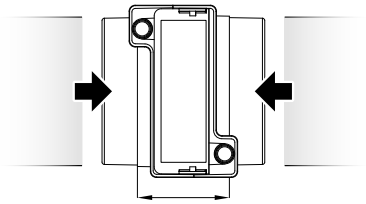
Mounting the multi-zone valves

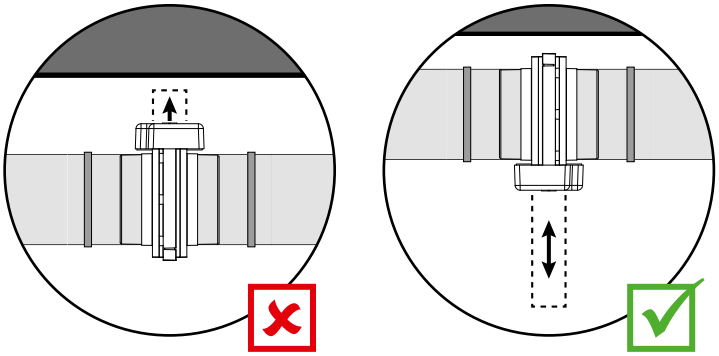
Multi-zone valves are mounted in the supply lines (SUP) with a maximum of 4 valves. **Please note: installation of more than 2 multi-zone valves is only possible from software version 23010.2.4.0.** The part is equipped with 2 connection flanges ∅ 160 (M).

When splitting the SUP ducts, provide a T-piece or Y-piece with a 45° radius to minimise resistance.

Provide 78 mm space between two channels and slide the channels over the multi-zone valve casing.

The casing is symmetrical and can be mounted in any direction. Position the casing so that the multi-zone valve can be easily retracted and operated.

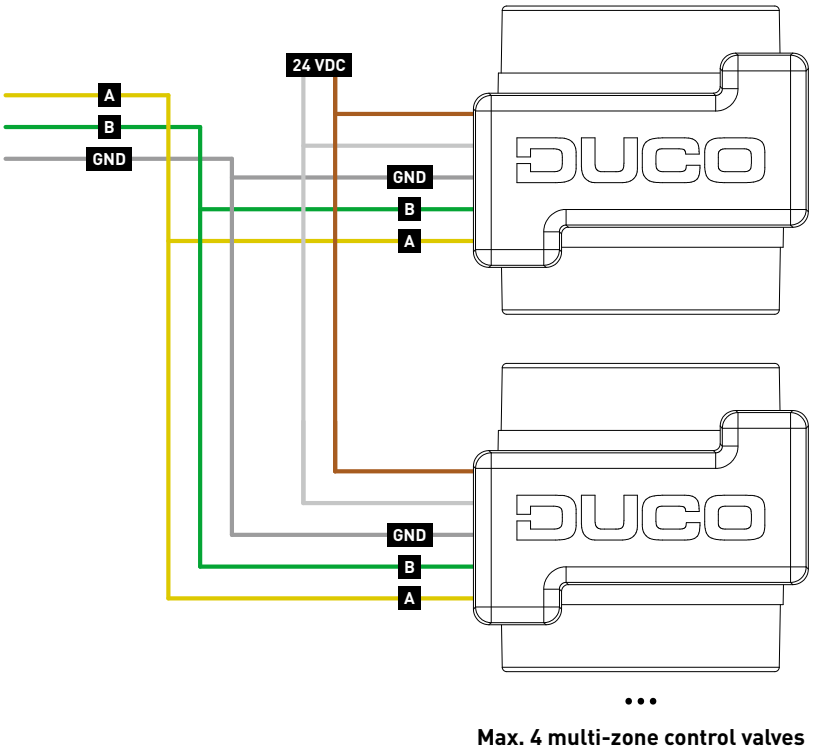




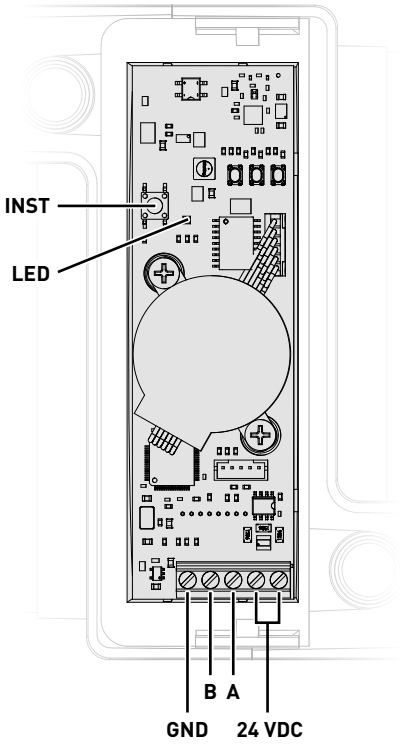
Provide a bracket on both sides of the valve. Stick the duct to the housing with aluminium tape.

Video instructions
www.duco.tv

Wiring and power supply of multi-zone valves



Max. 4 multi-zone control valves



For more specifications on the cabling to the DucoBox Energy Comfort (Plus) and the power supply, see 04.A page 11.

05.F Pre-Heater (optional)

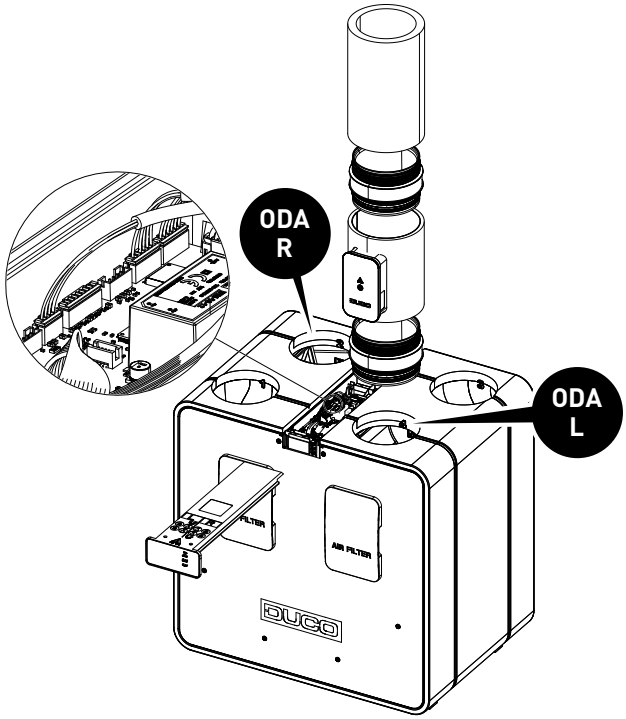
Mounting the Pre-Heater

The Pre-Heater is mounted in the ducts with outdoor air supply (ODA). The part is equipped with 2 connection openings: ∅160 on the 1150W version or ∅180 on the 1450W version. Depending on the duct diameter used, the appropriate connection pieces (see 'Integrating connection pieces' on page 18) can be applied to connect the Pre-Heater to the DucoBox and the ducts.

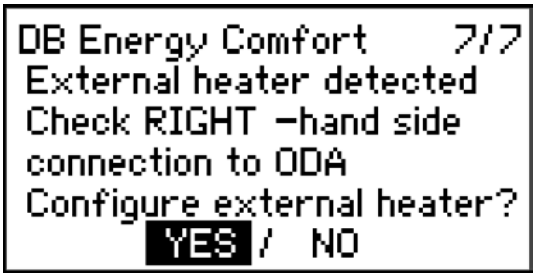
Video instructions
www.duco.tv

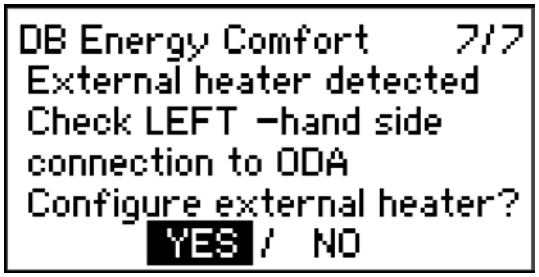
Pre-Heater cabling and power supply

The Pre-Heater communicates wired to the DucoBox via a pre-installed communication cable to be connected to the unit's PCB (see 03.B page 10).
In addition to the communication cable, a power cable is also mounted (230 VAC) with a grounding plug.



Mount the Pre-Heater before the DucoBox Energy Comfort (Plus) is started up. During the start-up wizard you will then automatically be asked to confirm whether a Pre-Heater has been installed!





If the start-up wizard has already been completed and the Pre-Heater is installed after this, the Pre-Heater must be activated via the display menu.

SETTINGS > FROST PROTECTION > HEATER EXT

05.G 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.

06 Commissioning

06.A DucoBox Energy Comfort (Plus) start-up

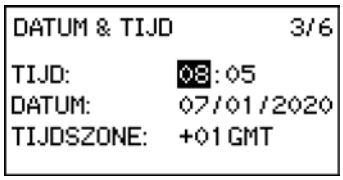
The unit may only be powered up when everything is connected correctly. This applies to both air duct systems and all electrical components. Failure to connect correctly can result in irreparable damage to the DucoBox Energy Comfort (Plus) or serious physical injury!

Power up the DucoBox Energy Comfort (Plus) (plug into the socket). When you first start up the DucoBox Energy Comfort (Plus), you will be asked to enter some basic settings. Navigate using the arrow keys (▲ and ▼) and confirm **`using enter`** (■).

General settings







LEFT / RIGHT setting

The LEFT / RIGHT setting determines the function of the channel connections. Make sure that the selected setting matches the connections as described in page 16.



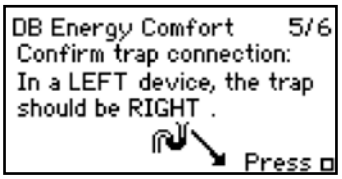
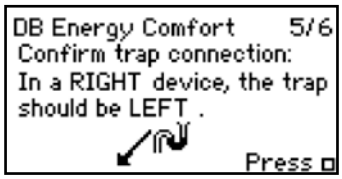
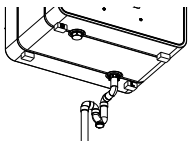
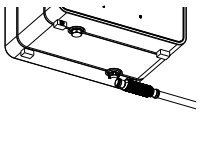
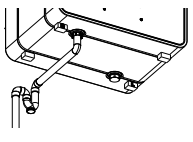
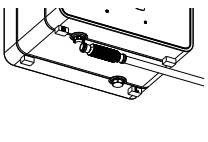
OR



Fitting condensate drain

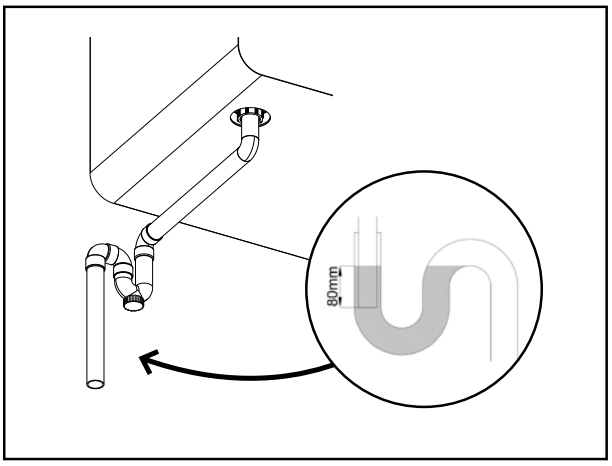
Position

The DucoBox Energy Comfort (Plus) must always be fitted with a condensate drain at the bottom. The mounting of the condensate drain depends on the selected LEFT / RIGHT setting. The display shows the correct position in relation to the selected setting.

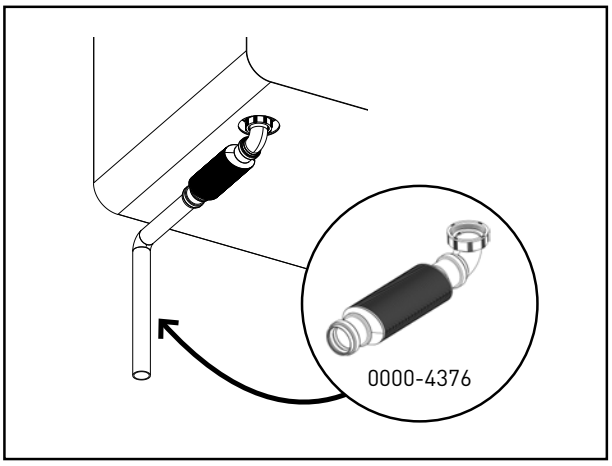
LEFT setting	RIGHT setting
	
Condensate drain RIGHT Standard siphon  Siphon Flat 	**Condensate drain LEFT** Standard siphon  Siphon Flat 

Connecting the condensate drain

The unit is supplied with a standard 32 mm drain with a threaded end. Condensate must be drained frost-free and under a slight slope. The condensate hose must not have any sharp bends.



OR



Standard siphon
(not included in the supply)

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

Siphon Flat
(not included in the supply)

Preferably use the **flat membrane siphon from DUCO**. This siphon saves space and reduces the chance of air leaks. The siphon can be mounted 'dry' and has the advantage that it cannot dry out on hot days.

Next steps

After this, you can proceed to the next steps to finish the installation:

- Pairing control components with the DucoBox Energy Comfort (Plus) (Electrical Installation, see page 24).
- DucoBox Energy Comfort (Plus) air-side calibration (see page 27).
- **If there are no CO_2 or humidity sensors in the system**, a time programme can be set (see page 31).
- **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 occupants' wishes (see page 32).

After this, the DucoBox Energy Comfort (Plus) 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.

What in case of power failure?

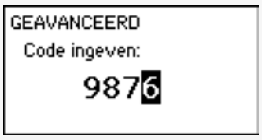
If the power supply to the DucoBox Energy Comfort (Plus) fails, it will retain all its settings. Once power has been restored, the DucoBox Energy Comfort (Plus) will start up again and run. If the DucoBox Energy Comfort (Plus) is without power for more than (approximately) 8 h, the correct time will need to be set again.

07 Electrical installation

07.A Pairing components

Pairing control components with the DucoBox Energy Comfort (Plus)

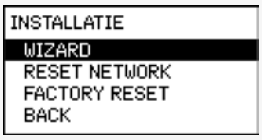
1 Activate advanced mode:
- Scroll down to **ADVANCED** and press **enter**.
- Enter the installer's code **9876** and press **enter**.



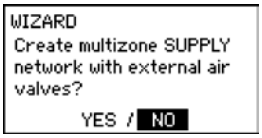
2 Go to the **INSTALLATION** menu.



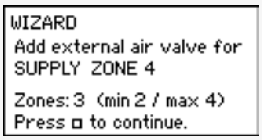
3 Start the **WIZARD**.



4 Was the supply divided into zones via iAV valves?
1. If YES -> go to step 5
2. If NO -> go to step 6



5 Register the multi-zone valves by briefly pressing the 'INST' button of the respective zone valves.
IMPORTANT: Remember the order of pairing. This determines the order of the zones! The first valve logged on is zone 1, the next is zone 2 ... with a maximum of 4 zones.

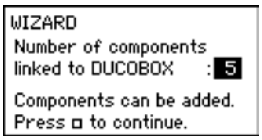


6 Pair the desired control components with the system. I.e.:
a) DucoBox Energy Comfort (Plus) without zone control: all components
b) DucoBox Energy Comfort (Plus) with zone control: only the components in the wet rooms (bathroom, toilet, kitchen, laundry room, ...)

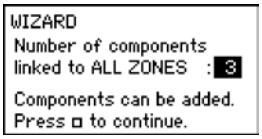
Briefly tap any button of all components to be paired*. The LED on the component will start flashing green once it has been paired correctly. The number of paired components will be shown on the display menu. Confirm by pressing **enter** (■) once all the desired components have been paired.

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

Without zone control:

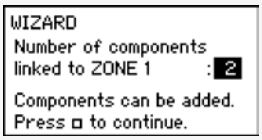


With zone control:



7 **Only with zoned system:**
For example, each zone can be (part of) the day zone (living room, office, ...) or (part of) the night zone (bedrooms).
a) Pair the desired control components with zone 1. Then confirm with enter (■).
b) Pair the desired control components with zone 2. Then confirm with enter (■).
c) **Only if 3 zones* were defined:** pair the desired control components to zone 3. Then confirm with enter (■).
d) **Only if 4 zones* were defined:** pair the desired control components to zone 4. Then confirm with enter (■).

* Please note: installation of more than 2 multi-zone valves is only possible from software version 23010.2.4.0.



All components are now paired. If additional control components need to be paired later, the wizard can be run again. 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 (controller):** Network just cleared. (This LED indication is temporary; subsequently, the DucoBox restarts) **Components:** Not in network **Operations (15 seconds after operation):** Error on the system (at Error/warning-> on input)	**Components:** Logging in	**User controllers:** 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	Operations (15 seconds after operation): Warning on the system (at Error/warning-> on input)		User controllers: Warning on the system (in case of Error/warning) -> Auto)	
Green	In network	In network, waiting to associate other components with this component.		
Yellow	Transition phase during calibration (waiting for pressure control to stabilise) a registered user controller/sensor is in installation mode but no longer connected to the controller		Initialising (system calibration in progress)	
White			Normal operation The brightness of the LED on the DucoBox and some control components indicates the current ventilation percentage (bright = 100 % ventilation).	
Blue	Visualisation of component (for example when changes are made via the controller)			
Magenta	**DucoBox (controller):** Software update via Duco Connectivity Board / SD card		**DucoBox (controller):** Update completed	

07.B Removing / replacing components

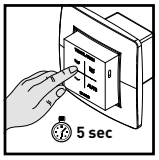
Removing paired components from the network or replacing is **only possible within 30 minutes after the component is paired or restarted**. Restarting can be done by disconnecting the power for a moment. After a time-span of 30 minutes, remove and replace operations are ignored. This is valid for **all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



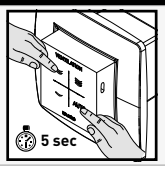
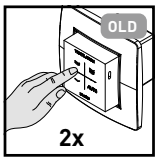
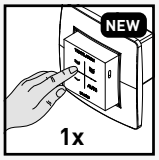
2. Press **once and hold** a button on the component to be removed in order to remove it from the network. **ATTENTION: any underlying components will also be removed from the network.**



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.	
2	Briefly press **twice** on the button of the component to be replaced.	
3	**Tap once** on the button of the new component. The latter will take on all settings / connections in the network.	
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 Comfort (Plus) 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 33).

- **RESET NETWORK**: this removes all paired control components from the network.
- **FACTORY RESET**: this resets the entire system (= DucoBox Energy Comfort (Plus) + 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

Calibrating the DucoBox Energy Comfort (Plus) can be split into various steps:

1. Pre-setting supply and exhaust vents
2. Calibrating flow rates

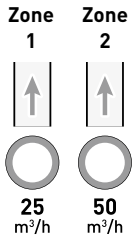
For the system to work correctly, it needs to be configured. This will ensure its operation is as quiet as possible and energy-efficient.

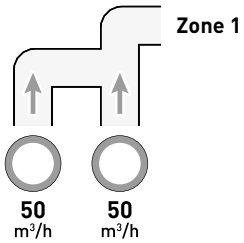
08.A Presetting vents

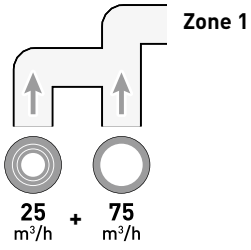
The exhaut and supply vents are placed in a duct to extract moist or stale air or to supply fresh air. In order to calibrate the air supply and exhaust correctly, these vents must be set **depending on the situation** in accordance with the table below.

A maximum of 50 m³/h is recommended for supply **vents in order to prevent excessive noise from being generated. For this reason it is recommended that the flow be split between different 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:	EXAMPLE:	EXAMPLE:

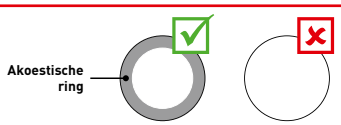






DucoVent Premium	DucoVent Design	DucoVent Comfort	DucoVent Basic
Position 8.0		Position 0	**100%** open
Position 5.2		Position 3	**50%** open
Position 3.0		Position 7	**25%** open

When using DucoVent Design exhaust vents, always leave at least the outer ring in place for acoustic effect.



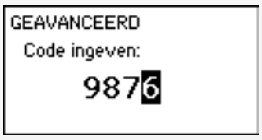
08.B Calibrating flow rates

The DucoBox Energy Comfort (Plus) calibration mode can be activated via the display menu.

IMPORTANT, BEFORE CALIBRATING
Close all windows and doors. Ensure that all duct openings in the DucoBox Energy Comfort (Plus) are fully closed, that the DucoBox Energy Comfort (Plus) lid is closed and, if applicable, the covers of the multi-zone valves are properly fitted! Avoid air leaks in the ventilation ducts. Open all interior doors between the various zones.

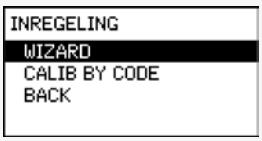
Calibrating the DucoBox Energy Comfort (Plus)

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



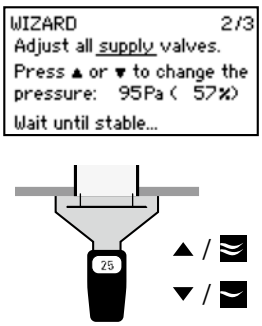
Calibrating **supply** vents

2 Scroll down to **CALIBRATION ▯ WIZARD** and press enter. The DucoBox Energy Comfort (Plus) calibration mode starts up. Do not start manual calibration until you see the message on the display and follow the instructions on screen. Enter the flow rates for each zone if asked to do so.

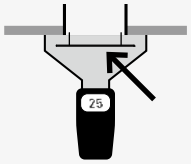


3 In the **'Adjust the supply vents'** step, select the duct with the highest flow rate and resistance and, using a pressure-compensated air flow meter, measure the flow rate at this vent. If the flow rate is too high or too low, you can adjust it using the arrow keys on the DucoBox Energy Comfort (Plus). 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 that you get the desired flow rate on this vent. The flow rate can be fine adjusted at the vent.

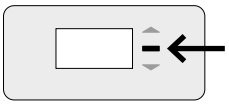
NOTE: The system needs around ten seconds to run stably when adjusting the flow rate using the buttons on the DucoBox Energy Comfort (Plus), the Remote control or making large changes at the vent. The system will indicate when the calibration is stable. The flow rate cannot be measured correctly until after this time has elapsed.



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 of previously calibrated vents.

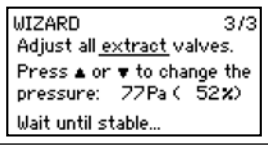


5 When all supply valves are adjusted, press the **enter button** (■) on the DucoBox Energy Comfort (Plus) or you can confirm by long pressing the **AUTO button** of the remote control.



Calibrating **exhaust** vents

6 Repeat steps ❸ up to and including ❺ for all **exhaust** vents.



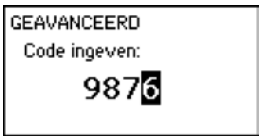
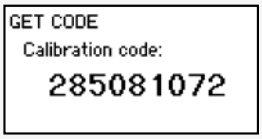
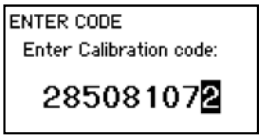
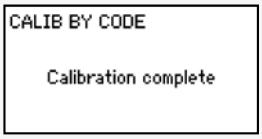
08.C **Checking**

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 33) and select **CALIBRATION > VERIFY HIGH LEVEL**. The DucoBox Energy Comfort (Plus) will now ventilate for 30 minutes at its calibrated ventilation setting.

08.D **Copying calibration data in case of serial construction**

The DucoBox Energy Comfort (Plus) contains the '**Calib by Code**' function in order to copy the calibration data to another unit. This is useful in projects with **identical residential units and installations**. In this case, only a single unit needs to run through the calibration procedure. The other unit will take over the calibration settings of the first unit by copying the calibration code.

Copying the calibration data to another unit

1	Make sure that all valves are adjusted **identically** (presetting + fine-tuning) for each installation.	
2	Activate advanced mode: • Scroll down to **ADVANCED** and press **enter**. • Enter the installer's code **9876** and press **enter**.	
3	On the calibrated unit, navigate to **CALIBRATION > CALIB BY CODE > GET CODE** and write down this code. In multi-zone systems, the code is divided into several fields. Note all codes separately. **Note**: if the code displays a value '0', the unit whose calibration is to be copied was not (properly) adjusted. To do so, follow the steps under 08.B.	
4	On the units to be calibrated, navigate to **CALIBRATION > CALIB BY CODE > ENTER CODE** and enter the code.	
5	The unit will indicate when the calibration is completed. This can take a few minutes. If the unit does not succeed in completing the calibration (for example due to a wrong code or differences in the installation), the user can cancel the calibration by simultaneously pressing the two arrow keys.	

DUCO recommends to check the calibrated flow rates after the calibration (see page 28).

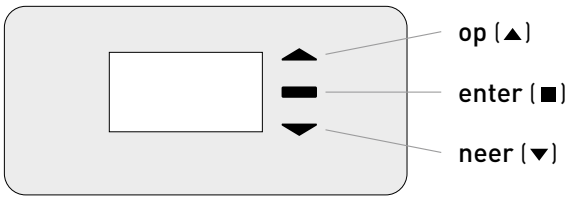
09 Display menu

The DucoBox Energy Comfort (Plus) features a graphic display which enables all the necessary parameters of the unit to be easily adjusted. 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

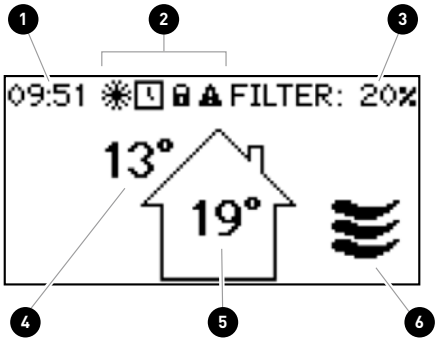
Operation

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



Main screen

The display will light up continuously when the DucoBox Energy Comfort (Plus) starts up until calibration has been completed.
Then the following main screen is visible:



The pictogram indicates the active position of the system (only if '**CONTROL ON DEVICE**' is active). See page 31 for more information.

1	Time
2	Symbols Frost protection is active (see page 33) Time programme active (see page 32) Menu is in advanced mode (see page 33) 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 mode The icon indicates the active mode of the system (only if '**CONTROL ON DEVICE**' is active). See see page 31 for more information.

09.B Change ventilation mode

The ventilation mode 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 modes

AUTO	**Automatic setting** (= recommended) The system ventilates on a low number of revolutions and will only accelerate if needed. This guarantees an operation that is as energy-economical as possible. The acceleration is based on CO_2 or humidity measurements (if any sensors are present) or on a preset time programme (see page 32).
	Low mode System ventilates at **10 %** of maximum capacity.
	**Medium setting** System ventilates at **50 %** of maximum capacity.
	**High mode** System ventilates at **100 %** of maximum capacity.

Changing the ventilation mode via the unit

The DucoBox Energy Comfort (Plus) includes an option to view and change the ventilation mode via the display menu. For this purpose, the following settings must be activated: **SETTINGS > UNIT CONTROL** (standard = **ON**). If this option is active, the ventilation mode will be visible on the main screen (see page 30), and you can change it using the arrow keys (▲ / ▼). Open the menu via **enter** (■).

The selected ventilation mode on the unit is always permanent (indicated in purple on the user controllers) until the user activates another mode. If you want to set temporary manual modes, a user controller is needed. DUCO recommends the **AUTO** position for an optimal and energy-efficient operation.

09.C Settings for the resident

The following settings can be adjusted by the occupant:

Date & time

During the initial installation, carried out by the installer, the date and time will be set correctly. Every DucoBox Energy Comfort (Plus) will remember the date and time for a number of hours after a power cut. If the date and time are nevertheless set incorrectly, this can be adjusted manually via the menu.

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

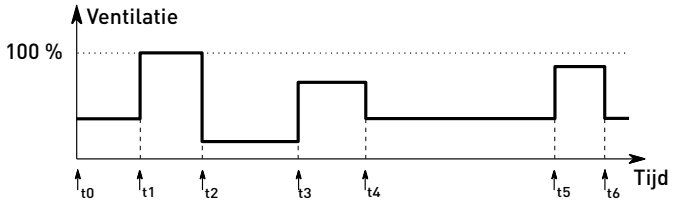
Setting date & time	
1	Go to **SETTINGS > DATE & TIME**.
2	Change the hours by pressing the ▲ or ▼ button and press **enter** (■) to confirm.
3	Change the minutes by pressing the ▲ or ▼ button and press **enter** (■) to confirm.
4	Change the day, month, year and time zone in the same way. Date and time 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 or humidity sensors present in the ventilation system. With the time programme, the DucoBox Energy Comfort (Plus) will increase or decrease the ventilation in the house. The time programme can be adjusted by the user on the DucoBox in the following way.

The time programme is deactivated by default.

The time programme can also be adjusted using the DUCO Installation App.



Adjusting the time programme

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

Bypass

If the temperature in the house rises too high, for example due to sunlight during hot summer days, the system can sitch off heat recovery partially or completely. 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)

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

Setting the bypass manually

Optionally, the user can deactivate the automatic operation of the bypass by manually opening or closing it.

Bypass settings

SETTINGS

BYPASS

STATUS **(for information)**
Current status of the bypass. **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**: no heat exchange at any time **SHUT**: always heat exchange

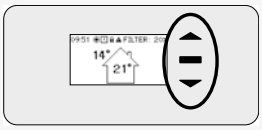
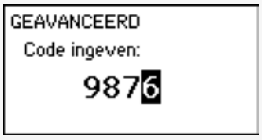
ADAPTIVE
If **MODE** = **AUTO** and **ADAPTIVE** = **ON**, the system will automatically seek the most pleasant-feeling temperature thanks to a smart comfort temperature control. The system will adjust the desired indoor temperature based on the outdoor temperature and the season of the year.

COMFORT TEMPERATURE
In **AUTO** mode the system will aim to shift the temperature in the house 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 on the menu, which enable the unit to be put into operation.

Activate the advanced mode

1	Press **any button at random** on the DucoBox Energy Comfort (Plus) display.	
2	Scroll down to **ADVANCED**. The padlock next to the menu indicates that the advanced mode is locked. Press **enter**.	
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 the advanced mode is active. The menu will exit the advanced mode after 30 minutes of inactivity or after restarting the DucoBox Energy Comfort (Plus). The advanced mode can also be closed down manually using the **CLOSE ADVANCED** menu command.	

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 Comfort (Plus) is equipped with a mechanism to prevent freezing of this condensate. The unit will adjust air flow rates in such a way that freezing will be prevented (= temporary imbalance method).

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

The frost protection cannot be switched off.

It is possible to deactivate the electric heating element (if any); the frost protection itself cannot be deactivated. If the heating element is deactivated, the unit will adjust the flow rates to prevent freezing up. However, DUCO advises against changing the standard settings.

What in case of freezing?

If, despite the built-in frost protection mechanisms, the DucoBox Energy Comfort (Plus) should freeze in an exceptional case, this will be reported on the display. The DucoBox Energy Comfort (Plus) will then 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, when the unit is completely defrosted, the resident should unplug and plug back in to restart ventilation.

Frost protection settings

SETTINGS

FROST PROTECTION

STATUS (for information)
STANDY-BYfrost protection standby
ACTIVE: frost protection in operation

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

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



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

09.E Menu structure

The chart below contains all the menus in the DucoBox Energy Comfort (Plus). Menus with a padlock (🔒) are only visible to the installer after entering the installer code **9876**.
The chart below may differ depending on the DucoBox Energy Comfort (Plus) software version.

INFO

TEMPERATURE SENSORS (for information)
The DucoBox Energy Comfort (Plus) features 4 temperature sensors which measure the temperature at each duct connection. The values of these temperature sensors are indicative.

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 Humidity 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 state the software version of your DucoBox Energy Comfort (Plus). 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.

FILTER LIFETIME 🔒
Customise filter replacement interval with choice of 90, 180, 270 or 360 days.

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.

CALIB BY CODE 🔒
To copy the adjustment of an existing system, a code can be requested or read in.

ADVANCED / CLOSE ADVANCED 🔒

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

SETTINGS

COMFORT TEMPERATURE
The DucoBox Energy Comfort (Plus) will seek to maintain the temperature in the house at the set value. The DucoBox Energy Comfort (Plus) also features a smart algorithm which will automatically adjust the comfort temperature depending on the outdoor 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.

CONTROL ON DEVICE
Option to change the ventilation mode 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 Comfort (Plus) 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 Comfort (Plus) has an inbuilt clock which is required for the time-dependent controls.

LANGUAGE
The menu language can be changed to match the user's language. The following languages are available: Dutch, English (standard), 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 33. 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).

INSTALLATION 🔒

WIZARD 🔒
Run this wizard to pair components with the system.

RESET NETWORK 🔒
This removes all paired control components from the network.

FACTORY RESET 🔒
Resets the entire system (= DucoBox Energy Comfort (Plus) + paired components) to factory settings. The calibration will be lost.

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

10 Passive house

The DucoBox Energy Comfort Plus D350 and D450 with external Pre-heater can be used in a Passive House / low energy house 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 Comfort Plus D350 or D450 with external DUCO Pre-heater DucoBox Energy Comfort (Plus) 1425 W.
- Frost protection must be set to Passive House mode. This disables the unbalance method as frost protection (see page 33) to ensure a constant supply of fresh air. This setting can only be changed by the installer.
- During the hot (summer) months, it ought to be possible to switch the DucoBox Energy Comfort Plus off to minimise power consumption. This can be done by placing a switch between the power supply and the DucoBox Energy Comfort Plus or by connecting the DucoBox Energy Comfort Plus to a separate fuse. Please note: ensure sufficient natural ventilation (for example open windows) when the unit is switched off. Always take into account the applicable local legislation.

11 Maintenance & service

Please refer to the maintenance instructions **at www.duco.eu** and view the videos on **duco.tv** for more information.

For service problems as a user:

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

For service problems as an installer:

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

The serial number is located on the sticker at the top of the DucoBox Energy Comfort (Plus) or can be consulted via the display **INFO > DUCO SERIES 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 related 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 or user controllers. 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 (excluding sensors without control) or user controller (excluding battery-operated controllers). This remains active until the error code is handled.
- **AUTO**: at **ERROR** or **WARNING** a red or orange LED appears on all paired sensors or user controllers (excluding battery-operated controllers). The LED remains lit until the error code is handled.

Clean or replace filter

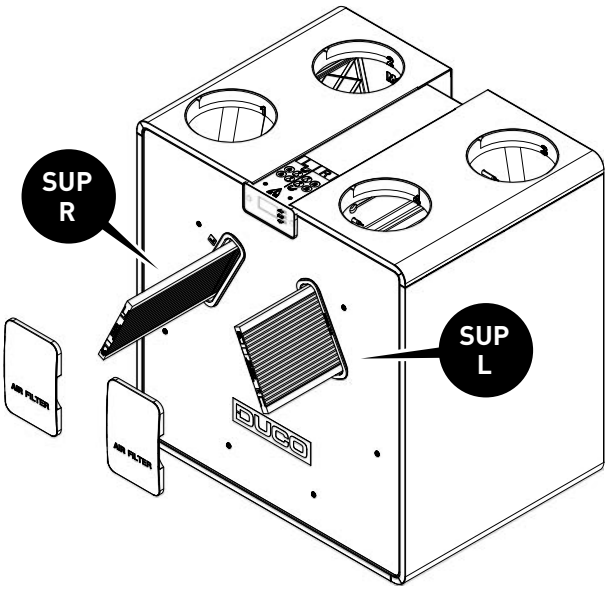
The filter set depends on the type of DucoBox. You can find the model of your DucoBox on the CE-sticker or retrieve it via the display menu **INFO > DEVICE INFO**.

Product	Filter set	
	2 x Coarse 65 %	Coarse 65 % / ePM1 55 %
DucoBox Energy Comfort (Plus) D250 (UK)	0000-7132	0000-7133
DucoBox Energy Comfort D225 DucoBox Energy Comfort D325 (UK)	0000-4547	0000-4661
DucoBox Energy Comfort D400 (UK) DucoBox Energy Comfort (Plus) D350 (UK) DucoBox Energy Comfort (Plus) D450 (UK) DucoBox Energy Comfort (Plus) D550 (UK)	0000-4741	0000-4742

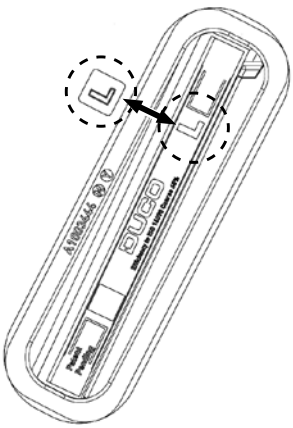
To clean or replace the filter, a Wizard can be followed via the display:

- **SETTINGS > FILTER > CLEAN FILTER**
- **SETTINGS > FILTER > REPLACE FILTER**

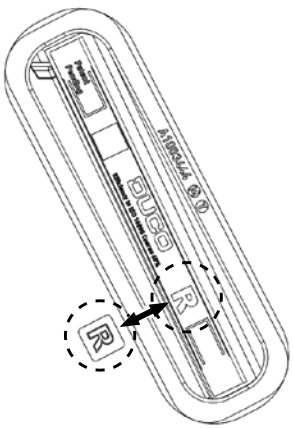
If a Coarse 65 % / ePM1 55 % filter set is used, the ePM1 55 % filter must be fitted in the supply (SUP). Pay close attention to the version of the device (L or R) - see illustration.



For the DucoBox Energy Comfort D225/D325/D400 and DucoBox Energy Comfort Plus D350/D450/D550: the patented Dynamic Airflow filters have a beneficial impact on efficiency and power input. These must always be inserted correctly into the unit by matching the 'L' and 'R' icons (marked on both the filter and the unit).



Left-hand filter: make sure the 'L' on the filter and on the DucoBox are lined up nicely.



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 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, mentioning 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 Comfort (Plus) 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-comfort-plus**

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

Installed by:

L2003212 Document last modified on 16.07.2026 (revision H)