DucoBox Silent 2.0

ENGLISH en

Installation manual

Video instructions
www.duco.tv

L2005222 (Revision B | 13.10.2025)

Table of contents

Translation of the original instructions

For information regarding warranty, maintenance, technical data ... see www.duco.eu.
Installation, connection, maintenance and repairs must be carried out by a certified installer. The electronic components of this product may be live. Avoid contact with water.

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09

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DUCO

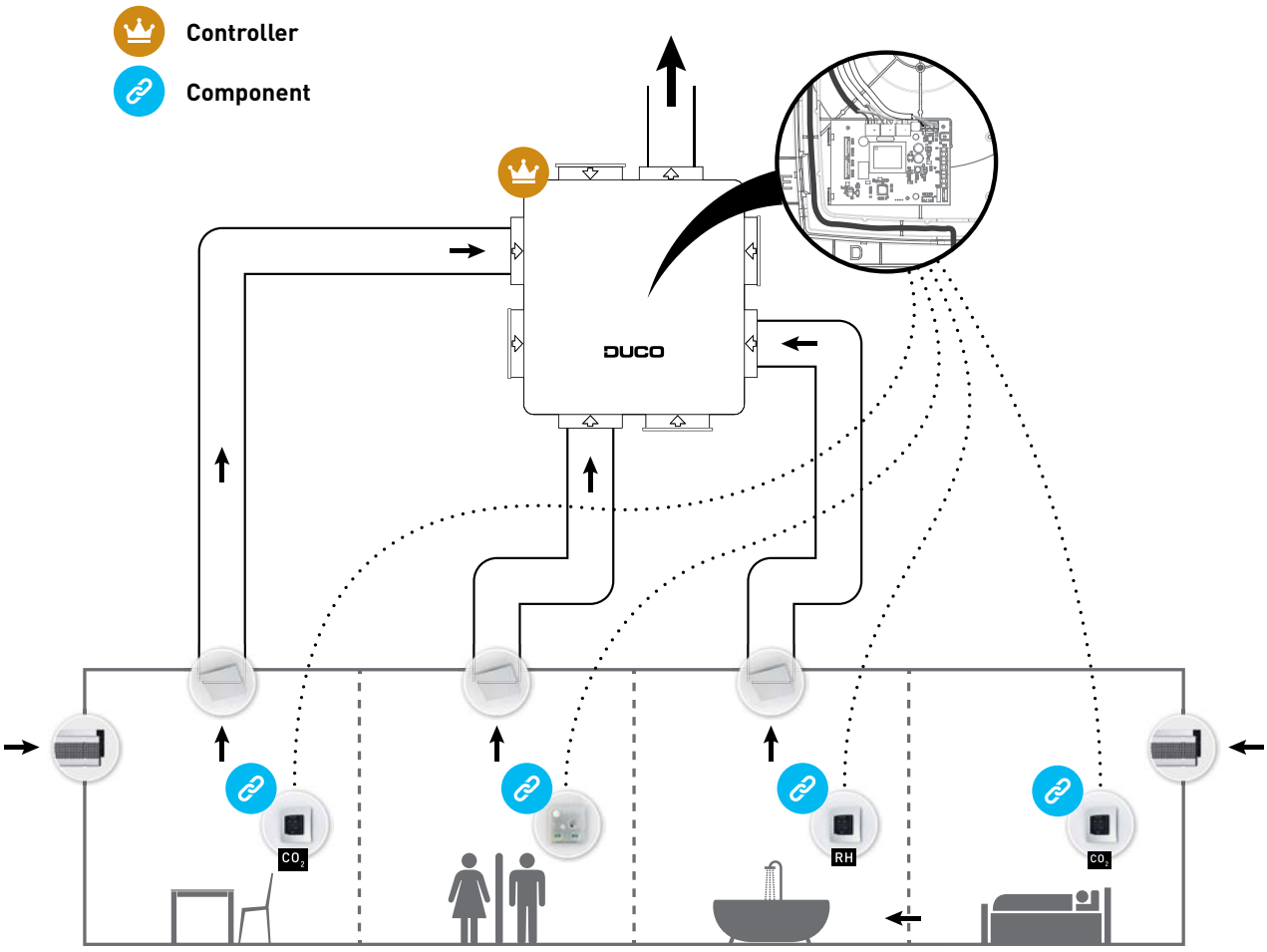
01 Introduction

Congratulations on your DucoBox Silent, the quietest box in Europe! The DucoBox Silent performs two functions in a DUCO Demand-Controlled Natural Ventilation System:

On the one hand, it is the **extractor fan** that extracts polluted air witch excessive CO_2 or humidity levels.

On the other hand, it is the **controller**, or the brain of the system. It receives and interprets signals from components (measurements from sensors or manual input), on the basis of which it controls the ventilation system.

It is inadvisable to connect the DucoBox (via a duct or directly) to an extractor hood, regardless of type. This often causes excessive contamination of the DucoBox, which affects its operation or has a more direct effect on the flow rate.



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 -5 °C.**
- **Relative humidity higher than 90 % or outdoors.**
- **Obstacles that prevent access to or removal of the ventilation unit.**
- **Bends in the ducts immediately upstream of the ventilation unit.**
- **The DucoBox Silent must not be connected to a (motorless) extractor hood or a tumble dryer.**

Make sure that the electrical power supply corresponds to 230 V, single-phase earthed, 50/60 Hz, alternating current system. The unit must be connected to an earthed and fused wall socket. Preferably mount the unit in an enclosed space. The ventilation unit can only be used with the appropriate DUCO accessories and controls. The installer must ensure that the ventilation 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 you have any doubt about this, please contact DUCO or the 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 ... Make sure that the electrical system to which the unit is connected meets the specified requirements. Do not expose the unit to weather conditions. Do not place any objects on the unit. Do not use the unit as an extractor for water heaters, heating systems ... Make sure 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. When installing the unit, always follow the safety instructions in the manual. Failure to adhere to these safety instructions, warnings, notes and instructions could result in damage to the DucoBox Silent or in personal injury for which DUCO NV cannot be held liable. The installation of the DucoBox Silent must be carried out 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 Silent, 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:

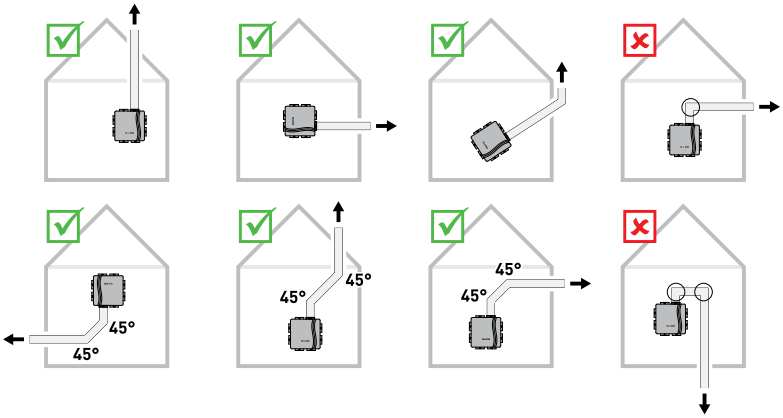
- Taking off the lid.
- Taking the motor module out of the fan after removing the lid.
- Disconnecting a duct or control valve from the connection opening during normal operation.

It must not be impossible to touch the fan by hand. Therefore, a ductwork of at least 900 mm must always be connected to the DucoBox Silent before you start using the unit. The DucoBox Silent complies with the legal requirements for electrical appliances. Always ensure that before starting work, 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 and 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 continuously, which means that the DucoBox Silent 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 the safe disposal of the ventilation unit at the end of its service life in accordance with local 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 check that there is no 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 inside the box.

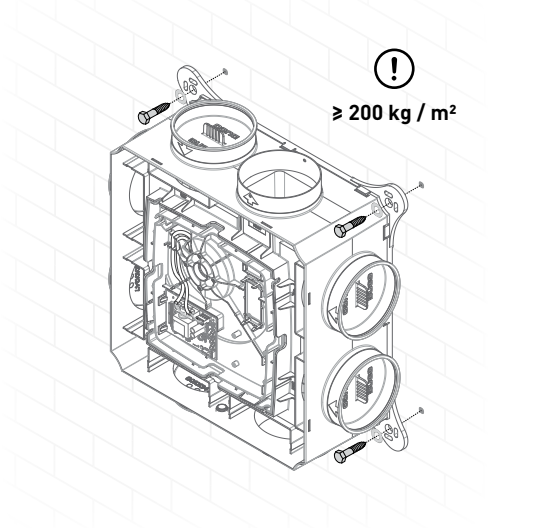
1 ESD = electrostatic discharge

03 Mounting

03.A Position



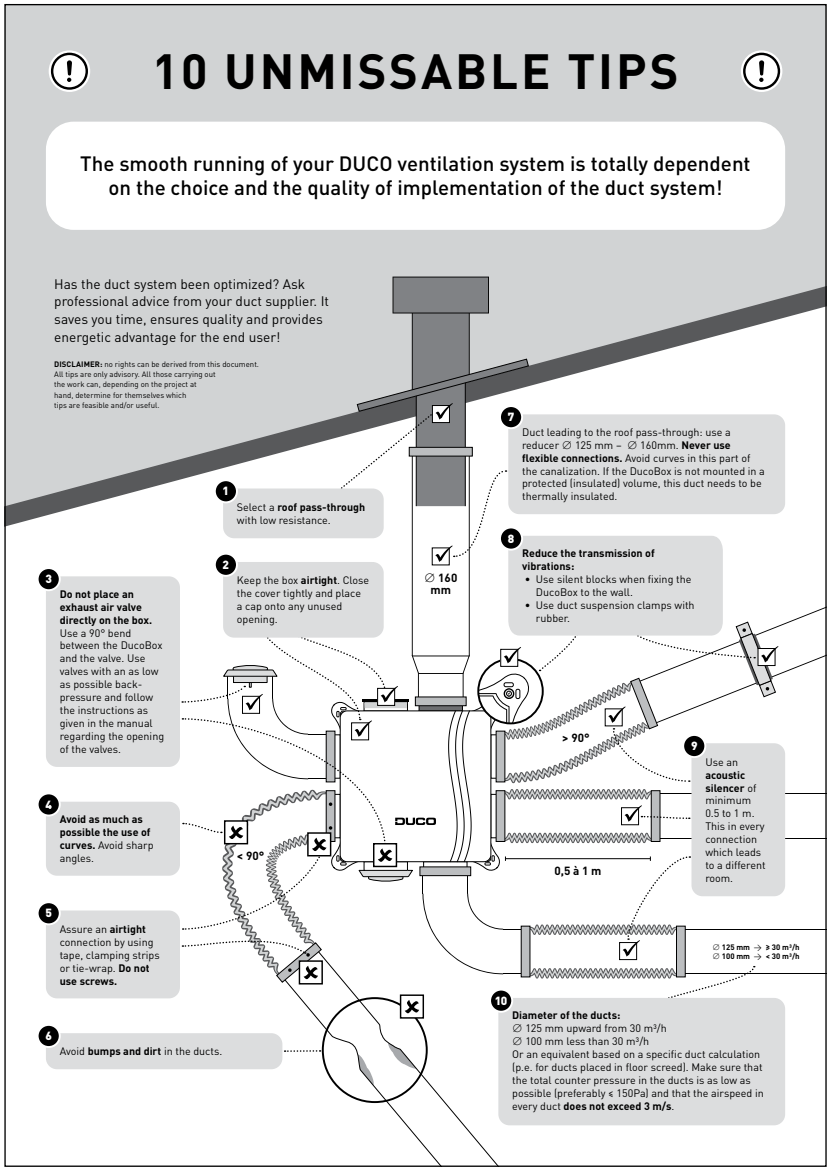
03.B Fixing



03.C Air duct connections

Limit the resistance. A non-return valve must be provided when discharging into a manifold.

When mounting the DucoBox, be sure to take into account the enclosed '**10 unmissable tips**'. Avoid excessive bends, especially angles of 90° or sharper, and follow the duct diameter guidelines to ensure that the ventilation unit can operate properly. If this is not taken into account, it can result in a highly energy-intensive and maintenance-intensive installation that frequently causes noise pollution.

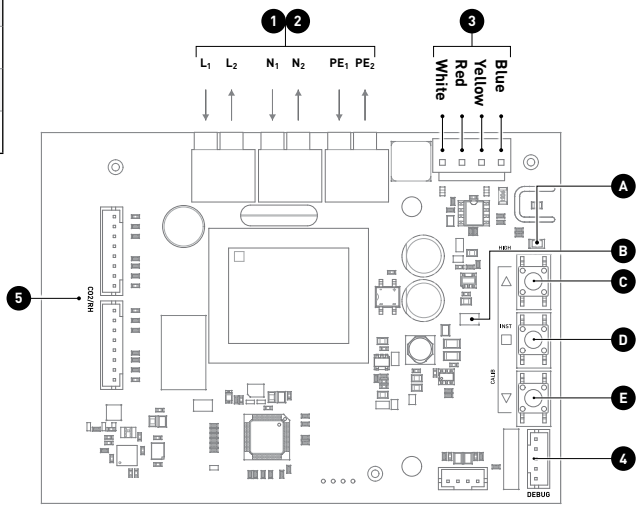


04 Wiring

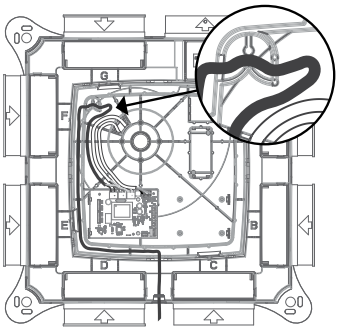
04.A Connections & buttons

CONNECTIONS	
1	Power cable
2	Fan power supply
3	Fan data cable
4	Installer Service Tool ('**DEBUG**')
5	Box Sensors

LEDS AND BUTTONS	
A	LED '**HIGH**'
B	LED **'INST'**
C	△-button
D	□-button
E	▽-button



Incorrect connection of the DucoBox or failure to follow the instructions may cause damage to the DucoBox and to the connected devices.



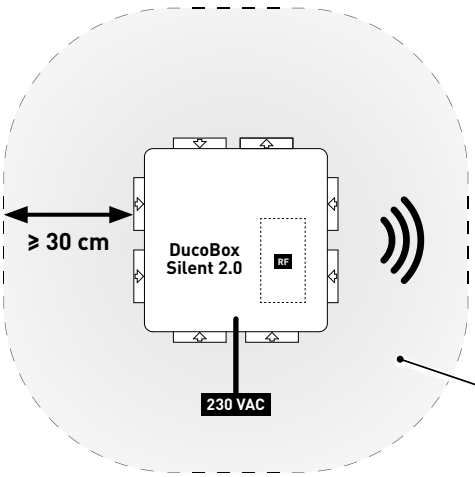
Strain relief

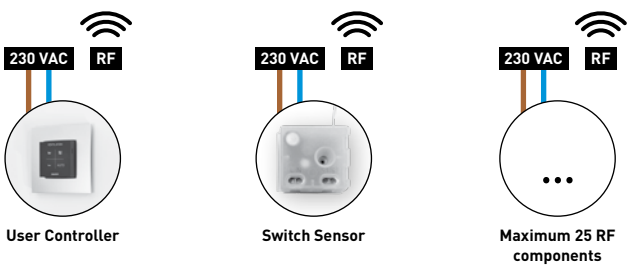
You must secure the power cable in the slot provided, as indicated in the drawing, before connecting the DucoBox to the mains.

04.B Wiring diagram

The DucoBox Silent communicates with components through a wireless (RF) connection. RF components have a maximum free-field range of 350 metres. This distance will be much less in a building because of obstacles. Therefore, you will need to take objects such as walls, concrete and metal into account. 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 component (= hop). Please refer toinformation sheet RF communication (L8000018) at www.duco.eu for further information.

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





RF obstacle-free zone

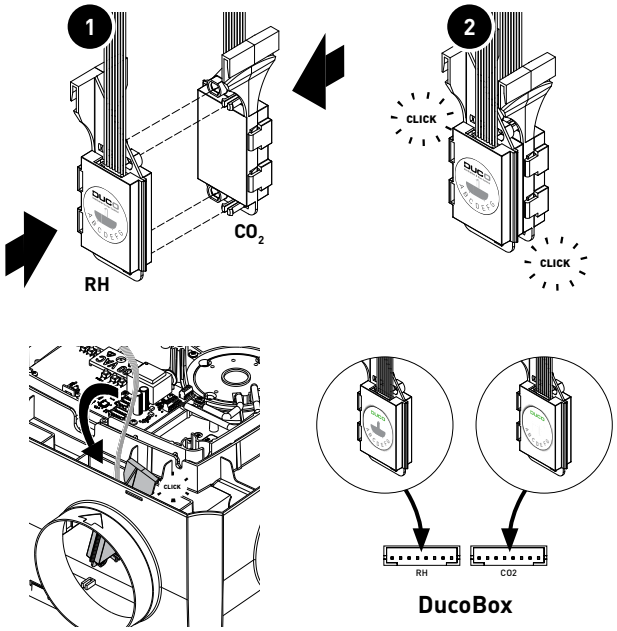
Do not place any obstacles causing RF interference or other devices with an RF connection within a radius of **at least 30 cm** around the RF component. This includes appliances such as washing machines, tumble dryers, ironing boards ...

05 Additional control options

05.A Box Sensors

Box Sensors can be integreted into a DucoBox Silent and measure the CO_2 content or humidity (RH) in an air duct. If the living area (CO_2 measurement) and the bathroom (humidity measurement) are connected to the same duct or zone, the two Box Sensors can be clicked together.

Fitting + connecting Box Sensor	
1	Optional: click the CO_2 Box Sensor and the Humidity Box Sensor together.
2	Twist the Box Sensors into the desired duct of the DucoBox until the Box Sensors click into place.
3	Connect the Box Sensors to one of the two connectors provided on the PCB of the DucoBox Silent.



06 Electronical installation

06.A Change settings

Most factory settings for the network and components will be satisfactory as they are, but depending on the situation, it may be desirable to change some parameters, such as the CO_2 setpoint. This can be done via the **Installer Service Tool***. This user-friendly software can also be used to detect problems in the system. The Installer Service Tool is provided to every installer after completing a free training course at the **Duco Academy***. Please refer to our website or your DUCO dealer for further information.

* Only in Belgium and the Netherlands.

06.B Installer / User mode

To add, remove or replace components in the network, the system must be put in 'Installer mode'. The LED on each component indicates the active mode of the component (see table in section '06.C LED indications').

'Installer mode' can be activated by pressing the ☐-button in the DucoBox Silent (see drawing in chapter '04.A Connections & buttons' op pagina 6. When the LED next to **'INST'** starts flashing green, 'Installer mode' is active. Press ☐ again to return to 'User mode' (LED fully on or off). After 15 minutes of inactivity, the system automatically returns to 'User mode'.

06.C LED indications

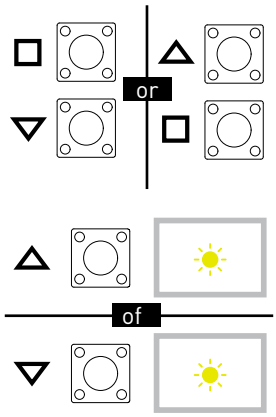
	**RED (slow flashing)** Not in network.	**RED (fast flashing)** Pairing in progress.
	**GREEN (slow flashing)** In network.	**GREEN (fast flashing)** In network, waiting for associated components.
	**YELLOW (slow flashing)** Transition phase (wait a moment).	**YELLOW** (on) Initialising (system calibration in progress).
	**WHITE or OFF** Normal operation.	
	**BLUE** Visualisation of component when changes are made via the controller.	
	**ORANGE** The system is not working correctly because the DucoBox has not been calibrated. Restart the DucoBox. Follow the guidelines in '10 unmissable tips' if the problem persists.	

06.D Building type setting

By correctly setting the building type and the number of occupants, the ventilation system will adjust the medium mode accordingly. There are two building types: low-rise (for example a house) and high-rise (for example an apartment). **Configuration of this setting is obligatory in the Netherlands.** The standard setting for a DucoBox is as a low-rise home for 4 (or more) occupants.

Setting the building type

1	Make sure that 'Installer mode' is not active (the LED next to '**INST**' is not flashing).
2	Set the correct building type: • For a low-rise building: press 3 seconds simultaneously on □ and ▽. • For a high-rise building: press 3 seconds simultaneously on △ and □. The LED next to '**HIGH**' indicates which building type is set: • LED off = low-rise • LED on = high-rise
3	The white LED next to '**INST**' flashes in a pattern to indicate the current number of occupants: • 1 flash = 1 occupant • 2 flashes = 2 or 3 occupants • 4 flashes = 4 or more occupants
4	Adjust the number of occupants using △ (more occupants) or ▽ (fewer occupants) until the LED flashes according to the correct pattern.
5	Confirm the setting by pressing □ .



06.E Pairing components

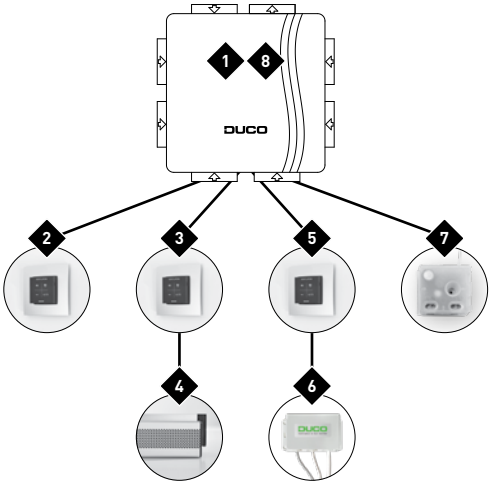
Never pair more than one system with RF components at the same time. If you do so, it is possible that a component will be paired with the wrong network (for example, with the DucoBox of the neighbours).

Pairing components on the DucoBox Silent

1	Activate 'Installer mode' by pressing □ in the DucoBox. The LED will flash green rapidly.
2	Add control components by **tapping 1 x on the component to be paired**. The LED will flash red briefly and then start to flash green rapidly. Repeat this step until all remaining components in the current zone have been paired. For RF components: start with the component closest to the controller. If the first pairing is unsuccessful, another component may be tried first, which can then act as a hop for components that are unable to make an direct connection with the DucoBox.
3	When all components are paired, 'Installer mode' can be deactivated by pressing □ in the DucoBox Silent. The LEDs on all components will stop flashing.

Please refer to the manual with the components for more detailed information.

Example of a pairing sequence

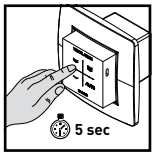


X indicates the order in which a button on the component must be pressed.

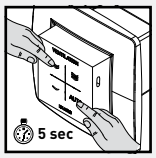
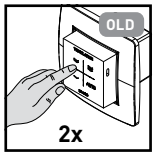
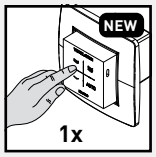
06.F **Removing / replacing components**

Removing or replacing paired components from the network is **only possible within 30 minutes after the component has been paired or restarted**. Restarting can be done by briefly disconnecting the component from the power supply. After a period of 30 to minutes, removal and replacement actions 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 user controller**. The LED will flash green rapidly.	
2	Press **and hold 1 x** a button on the component to be removed in order to remove it from the network.	
3	Deactivate 'Installer mode' by pressing the 4 buttons on a **paired user controller** 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 user controller**. The LED will flash green rapidly.	
2	Press **2 x briefly** press the button of the component to be replaced.	
3	Press the button of the new component **1 x briefly**. The latter will take over all settings and connections within the network.	
4	Deactivate 'Installer mode' by pressing the 4 buttons on a **paired user controller** simultaneously (or using the palm of your hand on a control featuring touch buttons). The LED will turn white.	

06.G **Tips**

- **Removing all components from the network (for example in case of problems):** Activate 'Installer mode' by first briefly pressing □ and then press and hold □ until the LED next to '**INST**' starts flashing red. The DucoBox will restart (approximately 15 seconds) and the LED will stop flashing.
- **Adjusting the setting value of the internal humidity sensor:** make sure that the DucoBox is not in 'Installer mode' (the LED next to '**INST**' is not flashing). Simultaneously press and hold the buttons △, □ and ▽ until the LED next to '**INST**' flashes blue several times. By default, the LED flashes 8 times, which corresponds to a threshold value of 80 % relative humidity. You can adjust the threshold value (each press corresponds to an adjustment of 10 %):
  - increase by pressing △ (up to a maximum of 90 %).
  - decrease by pressing ▽ (to a minimum of 30 %).

  Confirm the adjustment by pressing □ .
- Use the **Installer Service Tool** to read the info from the components.

07 Air calibration

For the system to operate correctly, the air volume must be adjusted. This will ensure its operation is as quiet as possible and energy-efficient. For information on determining ventilation flow rates, see 'Instruction sheet checking product references and flow rates' on www.duco.eu.

07.A Air calibration procedure for DucoBox Silent

The air calibration procedure must be carried out on a windless day (maximum 2 Beaufort: leaves rustling, wind noticeable on the face).

Air calibrating the DucoBox Silent

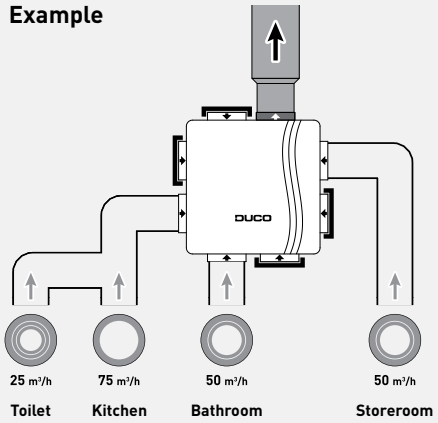
1

Set all exhaust vents so they match the desired flow rate in accordance with the table below. Proper pre-setting makes for rapid and correct calibration.

Flow rate	DucoVent Design	DucoVent Comfort	DucoVent Basic
75 m³/h		Position 0	**100 %** open
50 m³/h		Position 3	**50 %** open
25 m³/h		Position 7	**25 %** open

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

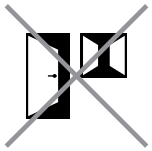
Example

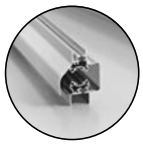


2

Before activating air calibration mode:

- Close **all** windows and doors.
- Ensure that **all duct openings in the DucoBox are fully closed and that the DucoBox lid is closed!**
- Avoid air leaks in the ventilation ducts.
- Set all window ventilators to the open position





open

3

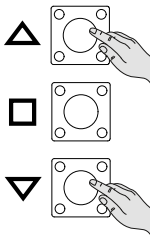
Set the DucoBox Silent in calibration mode by pressing 3 seconds simultaneously on △ and ▽. The LED next to '**INST**' starts flashing. The calibration mode is now activated for 30 minutes. There are 10 pre-programmed calibration curves (zie pagina 13). The LED next to '**INST**' flashes yellow according to the number of the set calibration curve (from 1 to 10 times). Example: 4 x flashing with an interval corresponds to calibration curve 4 (R4).

Which calibration mode should I choose?

By default, the LED next to '**HIGH**' lights up: the '**HIGH**' calibration mode is selected. Adjust the desired calibration mode by briefly pressing △ and ▽ when the calibration mode is activated. The LED next to '**HIGH**' indicates the calibration mode.

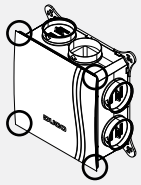
4

LED 'HIGH'	On (green)	Off
Button	**Air calibration using 'HIGH'** This method is standard and has the lowest consumption. Recommended in the majority of homes.	**Air calibration using 'LOW'** This method offers a boost mode but may give rise to more noise and higher consumption.
	Low mode (10 %)	Low mode (14-33 %)*
	Medium mode (50 %)	**High mode (100 %)**
	High mode (100 %)	Boost mode (143-333 %)*

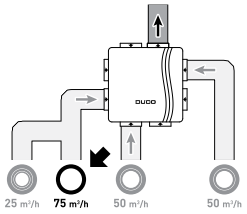


The percentages in the table indicate what percentage of the set flow rate will be exctracted. The selected calibration mode does not affect the operation of the AUTO mode.
* For calibration using 'LOW', the percentage in low mode and boost mode depends on the set building type (see section '06.D Building type setting' op pagina 9) and is limited to the maximum achievable flow rate of the ventilation system.

5 Close the lid of the DucoBox.
Make sure it seals the DucoBox **airtight** .

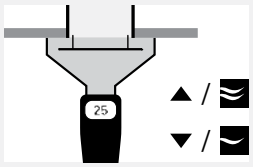


6 Choose the duct with the highest flow rate and the highest resistance.

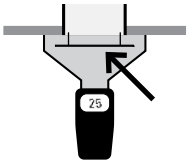


7 Measure the vent and adjust the speed of the DucoBox until the desired flow rate is achieved. This can be done in two ways:

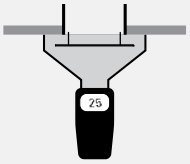
- Using the ≋ (higher) and ≈ (lower) buttons on a paired User Controller or Room Sensor*.
- Using the buttons △ and ▽ in the DucoBox. To do this, the lid must be temporarily removed. **Always close the lid between measurements.**



8 Now measure the other vents. **The flow rate of these other vents may only be adjusted on the vents themselves.**



9 Repeat steps **6** and **7** until the desired flow rate is achieved on each vent.

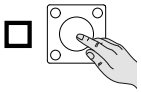


10

Exit the calibration mode. This can be done in two ways:

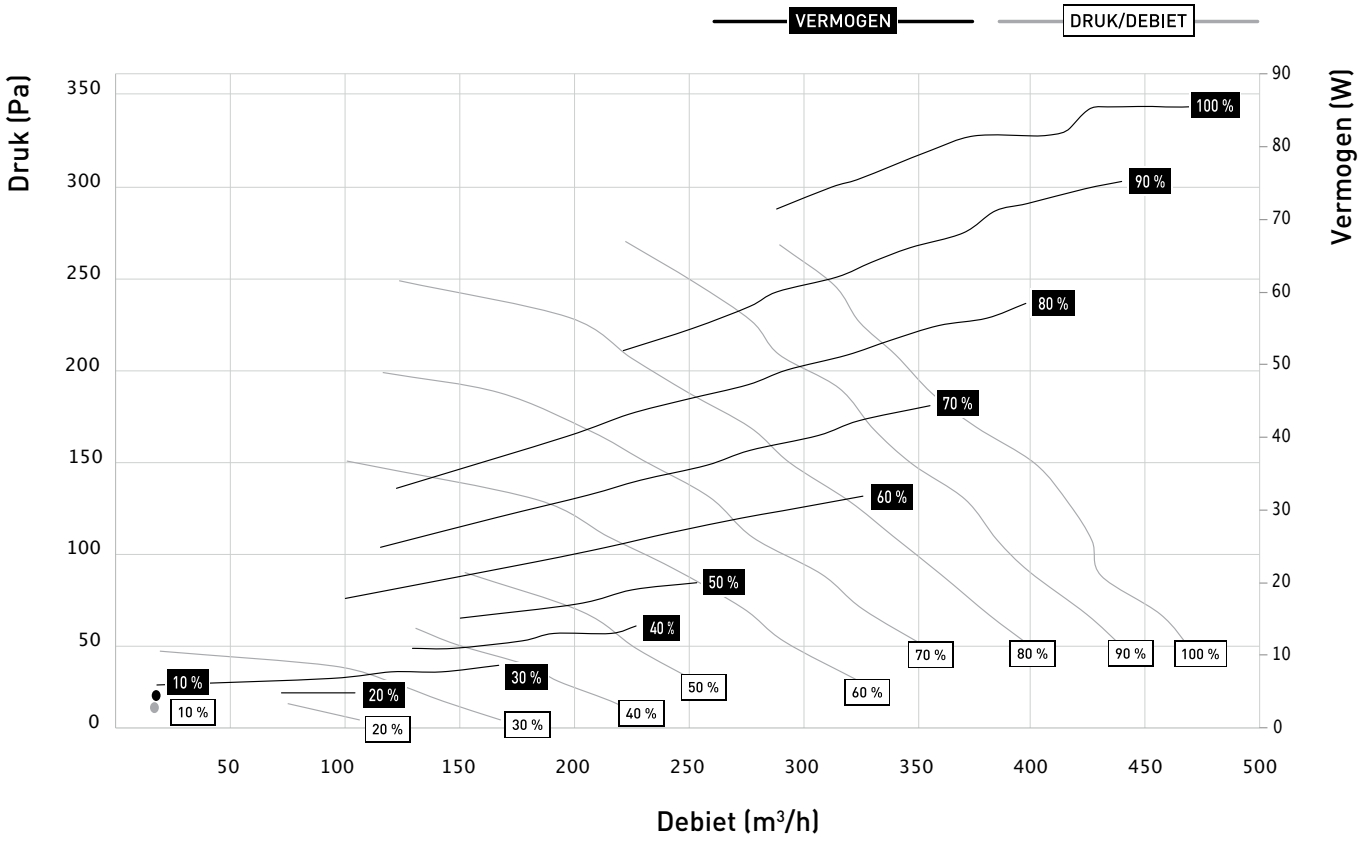
- Press and hold '**AUTO**' on a paired User Controller or Room Sensor* until the 4 LEDs light up white briefly and then turn yellow again.
- Press ☐ in the DucoBox and then immediately close the lid of the DucoBox. If the lid was not closed, you can pull the plug out of the power socket for a few seconds after closing the lid in order to reboot the DucoBox.

The DucoBox will now perform a calibration by temporarily running at high speed. This can take up to 1.5 minutes. Calibration is complete when the DucoBox slows down, the LEDs of the '**AUTO**'-button on the User Controllers / Room Sensors turn white, and the LED on the DucoBox turns white.



* Depending on the software version of the User Controller.

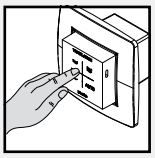
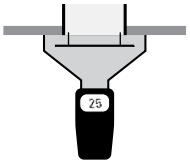
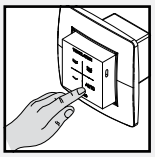
07.B **Calibration curves**



07.C **Check**

The steps below can be used to check whether the flow rates are set correctly.

Checking calibrated flow rate

1	The calibrated flow rate depends on whether the 'HIGH' or 'LOW' calibration mode has been chosen. Press **for calibration using 'HIGH'** (= default) or press **for calibration using 'LOW'** on any user controller to have the system run at 100 % of the requested flow rate for 15 minutes.	
2	Measure the flow rate at the exhaust vents.	
3	After the check, the system can be reset to the desired ventilation mode. If you do not do this, the system will automatically return to AUTO mode after 15 minutes.	

08 Maintenance & service

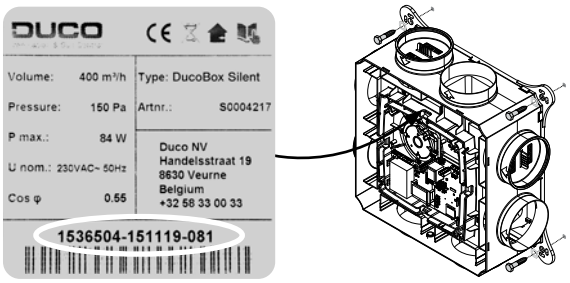
Please refer to the maintenance instructions at **www.duco.eu** and view the videos on **duco.tv** for more information.

In case of service problems as a user:

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

In case of service problems as an installer:

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



Sticker on the inside of the DucoBox

09 Warranty

All warranty conditions for the DucoBox and DUCO ventilation systems can be found on the DUCO website.

Complaints must be reported to DUCO in writing by the installer or the DUCO distribution point, clearly stating the complaint and the order or invoice number with 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.

10 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 Silent 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-silent-2.0

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

Installed by:

L2005222 Document last modified on 13.10.2025 (revision B)