RENSON®

Creating healthy spaces

Healthbox® II

Demand controlled ventilation

Introduction

Energy savings through demand-controlled ventilation (DCV)

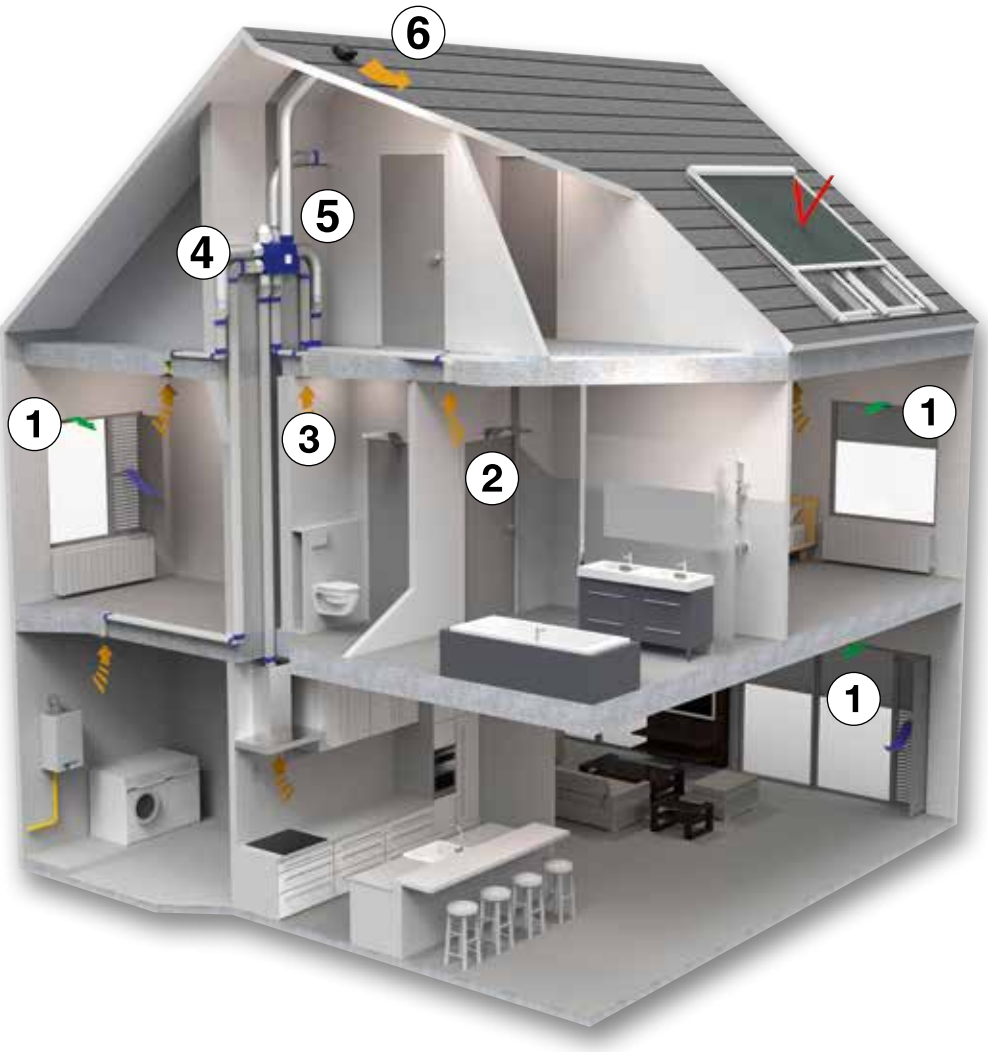
For several years now, demand controlled (mechanical) ventilation by RENSON® has been very successful due to ease of maintenance and energy efficiency. The innovative new **Healthbox** system goes a step further with its new control valve technology ensuring the house is optimally ventilated, according to the resident's activities.
The **TouchDisplay** control allows the residents to set their own personalised ventilation program and displays the actual indoor air quality. Read on to find out how the new **Healthbox** makes a **healthy indoor environment possible** in an **energy efficient** manner!

Respect the environment

Due to the 'demand-controlled ventilation' technology we use in the Healthbox, the extracted air volume (heat losses) can be reduced significantly. Installing the Healthbox in your home will be very advantageous for the energy balance of your house.

Introduction

The Healthbox is particularly suitable for both individual houses and for apartments having their own dedicated ventilation system. Whether the purpose is to introduce ventilation in large or small new build or renovated properties, the demand controlled ventilation of the Healthbox complies to the needs of the habitants.
The concept which guarantees optimal air quality while maintaining low energy consumption in the house, is defined in 6 steps:



① **Self-regulating window vents**
The self-regulating flap ensures that there is a constant air flow rate despite changes in wind speeds outside. With this type of regulation RENSON® window ventilation systems can guarantee a comfortable, healthy air supply without the nuisance caused by draughts.

② **Transit**
The flow of air through doors can be provided by door grilles such as the Silendo (an acoustically damping door louvre) or the Invisido (a discreet louvre above the door).

③ **Extraction points**
The design extraction grilles permit the extraction of polluted air while maintaining the aesthetic looks.

④ **Easyflex Ducts**
The airtight air duct system of RENSON®, Easyflex (superior class D), extracts the polluted air in an efficient way.

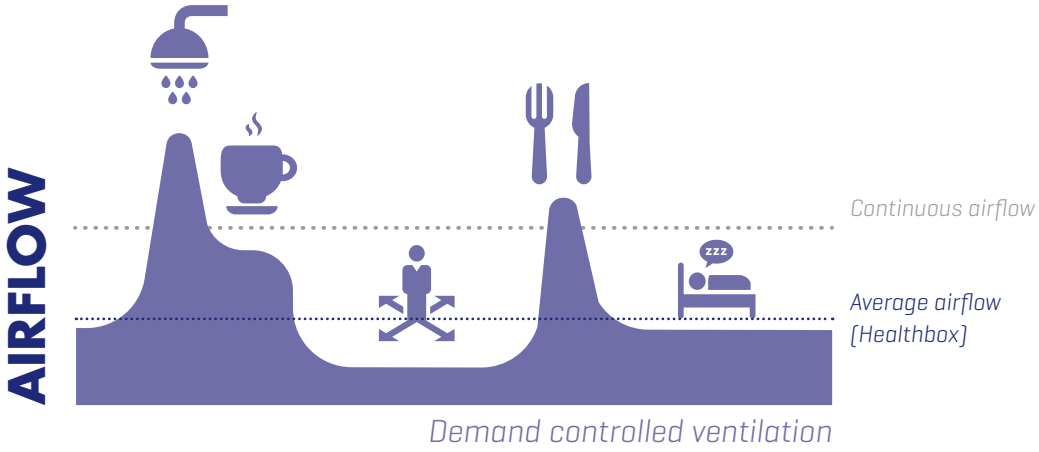
⑤ **Demand-controlled extraction**
The extracted airflow is regulated individually per room by the Healthbox, based on the detection of the air quality per room. The extracted airflow rate can be limited when the air quality is good, while still providing a healthy indoor environment.

⑥ **Roof outlet**
The roof outlet extracts the polluted air to outside. RENSON® has created a roof outlet with low air resistance, so the Healthbox consumes less energy in extracting the air.

Demand controlled ventilation

Adaption of the airflow according to your living pattern

The Healthbox is an autonomous system. The integrated sensors in the control valves monitor the moisture, odours and/or CO_2 for each connected room **24 hours a day**.
Subsequently, the control valve can increase or decrease the extracted airflow in an intelligent way depending on the measured air quality. The extracted air is automatically regulated depending on the quality of the extracted air, based on the life pattern of the habitants. This results in a maximum energy reduction.



The average extracted airflow can be reduced up to 58 % of the standard total airflow in certain house configurations, still providing a good indoor quality. The Healthbox takes part of the best apprentices in class

The heat loss using demand control ventilation is significantly reduced in winter.

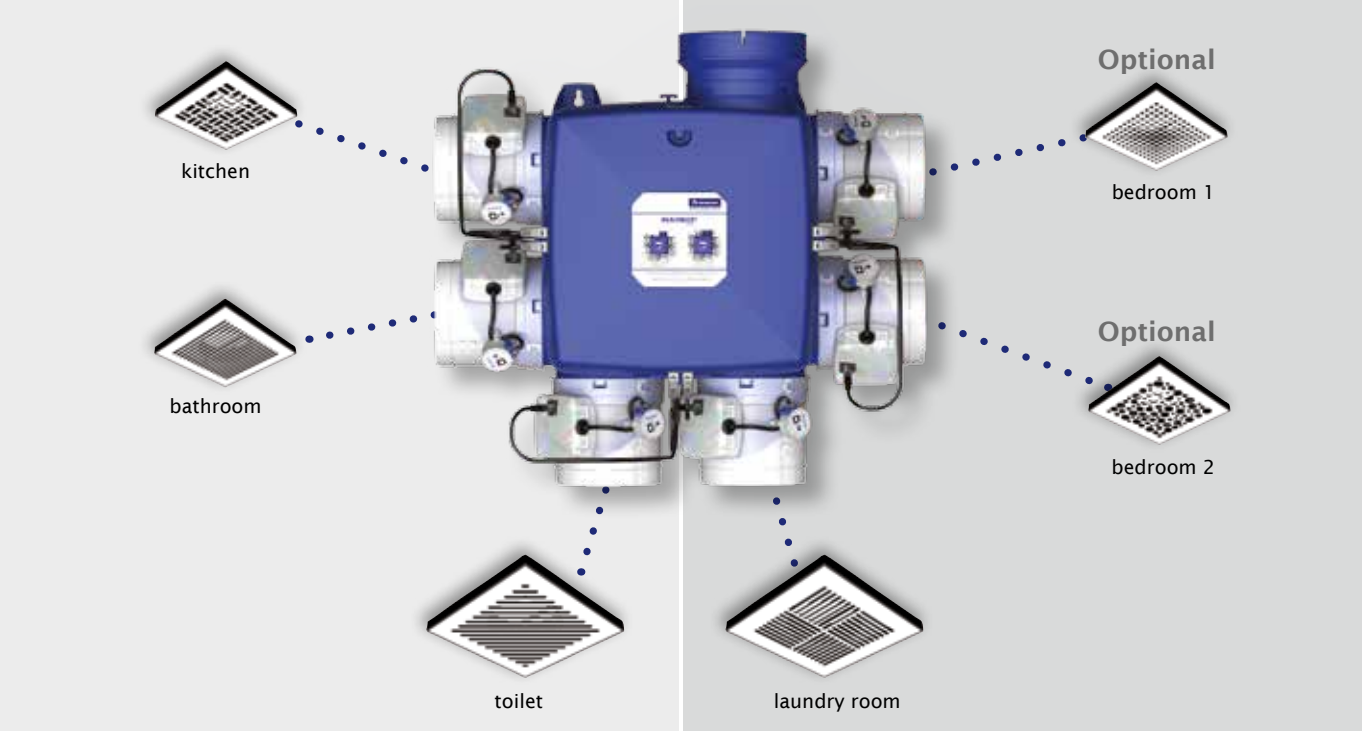
Realizing energy saving while maintaining a healthy indoor environment

Autonomy, silence and design for each room

The connections

The Healthbox has up to 6 separate connections to enable energy-efficient ventilation in up to 6 rooms.

NEW Now also available with 8 connections (Healthbox Smartzone).



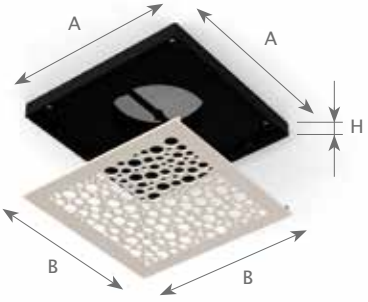
A silent system

In order to enable the integration of the extraction grilles into the ceiling, the location of the control system was moved from the extraction grilles to the electronic control valves on the fan unit. This reduces the risk of “muffled noise” at the extraction grille.

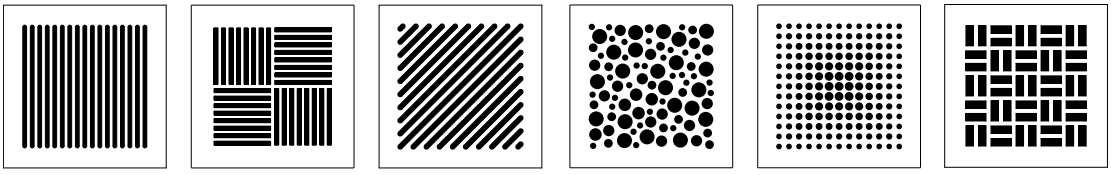
Design extraction grilles

Together with the Healthbox, RENSON® has developed stylish, almost invisible, extraction grilles.

In addition, the plastic extraction valves were replaced by aluminium design grilles. These design grilles are developed for integration or mounting into or onto the ceiling (or wall), for a plaster, plasterboard or a MDF base surface. The grilles are generally supplied in RAL 9010 matt (white) but can easily be painted over. The occupant can choose from 6 designs, to combine with all types of interior design.
The grilles are easy to clean without having the risk of accidental modification to the airflow.



Dimensions (mm)
Ø=80: A=134 / B=130 / H=11
Ø=125: A=174 / B=170 / H=11



PURO *SQUARE* *DIAGONAL* *AQUA* *ARTIST* *DECO*

Set-up

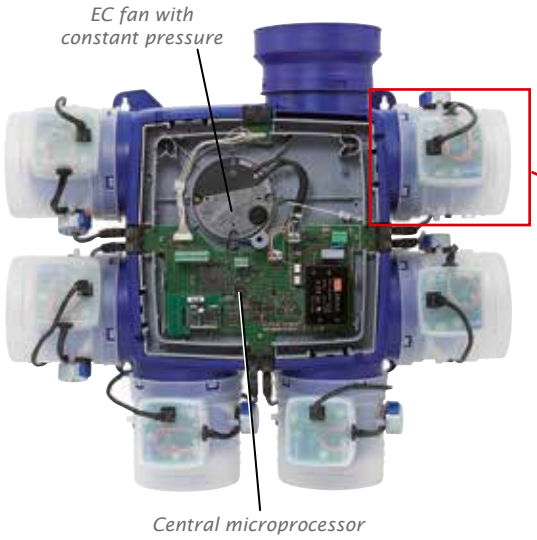
The Healthbox in detail

The Healthbox multi zone fan unit with control valves allows the correct ventilation to each connected room.

SAP APPENDIX Q
certified (UK)

Fan unit

The Healthbox is a constant pressure system, allowing control in a precise way via the central microprocessor. The EC fan always runs the optimal way.

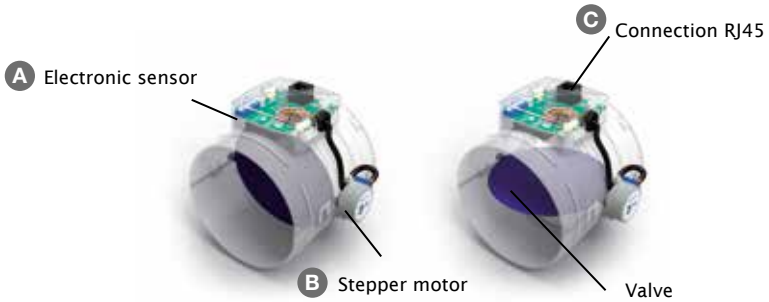


Correct extraction airflow with minimum electrical fan consumption

Thanks to the powerful, though, energy efficient fan, the Healthbox can be used to ventilate small to big houses.

Control valve: the reliable measure organ

Each ventilated room is individually connected with a control valve.
The moisture (humidity), odour (VOC) and/or CO_2 detection integrated in each control valve measures and regulates the fan unit and so maintains good indoor air quality (IAQ) in each ventilated room.
The extracted airflow can be limited by room when possible (minimal heat loss), while still providing good IAQ. Whilst also optimising the fan speed, energy consumption of the fan is minimised.

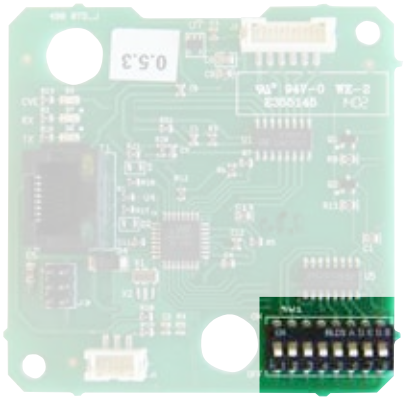


Minimum airflow rate

Maximum airflow rate

- **A** High quality **Electronic sensor** with quick reaction
- **B** **Stepper motor:** special motor to adjust the valve with precision
- **C** **RJ 45:** easy connection plug & play

The control valves are equipped with dip switches to modify settings. In this way, each room or zone set up can be easily configured within a few seconds. The advantage for the installer is a quicker and simpler setup time and a limited need for different control valves.



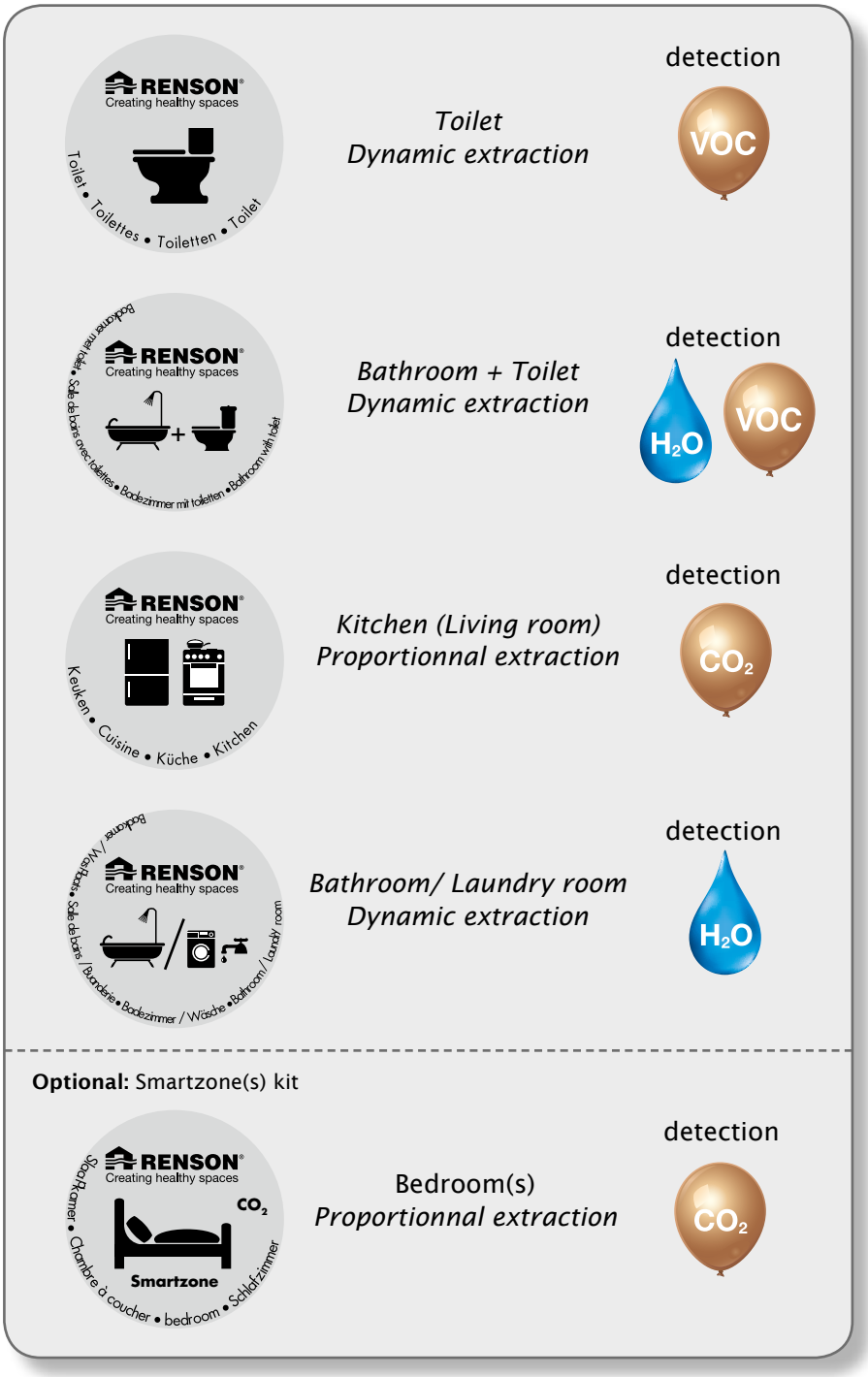
Dipswitches

Each control valve is equipped with a sticker with the symbol of the room to connect (kitchen, bathroom, laundry room, toilet,...), for a clear indication.

H_2O = moisture

VOC = Odour
(VOC = Volatile Organic Compound)

CO_2 = CO_2



Installation

An easy and quick installation

The control valves (ø125) are connected to the Healthbox by a quick 'clips' system.
For the connection of airducts ø80, an integrated reduction piece ø125/80 can be used.

- **Compact version: flat (18cm)**
- **Easy to install**
- **Fixation multi-position: wall, ceiling or by cord**
- **Can be fitted in cupboards, floor, ceiling**

Automatic calibration system

The settings for the maximum airflow rate per room is based on a unique patented procedure.

The entire system is automatically calibrated, achieving the appropriate airflow rate for each control valve, regardless of the length and type of the ducting.

The total **calibration time** will be limited to an **average of 7 minutes** (for a configuration of 3 control valves). Manual adjusting of the airflows are not necessary, which results in an installation time up to 5x faster than a classic MEV system and up to 30x faster than a MVHR system.

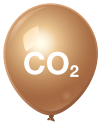
Due to the patented automatic calibration, the Healthbox controls the right airflow at each extraction point all the time.

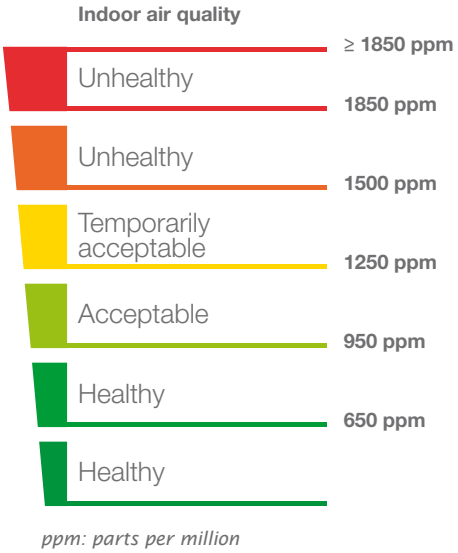
UNIQUE
Automatic calibration

- **Flawless calibration**
- **Gain in installation time**

In rooms where people are often present, detection of CO_2 is the best parameter to determine the air quality. This is especially applicable in the living room and the bedrooms, where lots of CO_2 is 'produced'.

The CO_2 level is a recognized parameter for measuring the indoor air quality, because a too high level CO_2 is often the (unexpected) cause of many health problems.

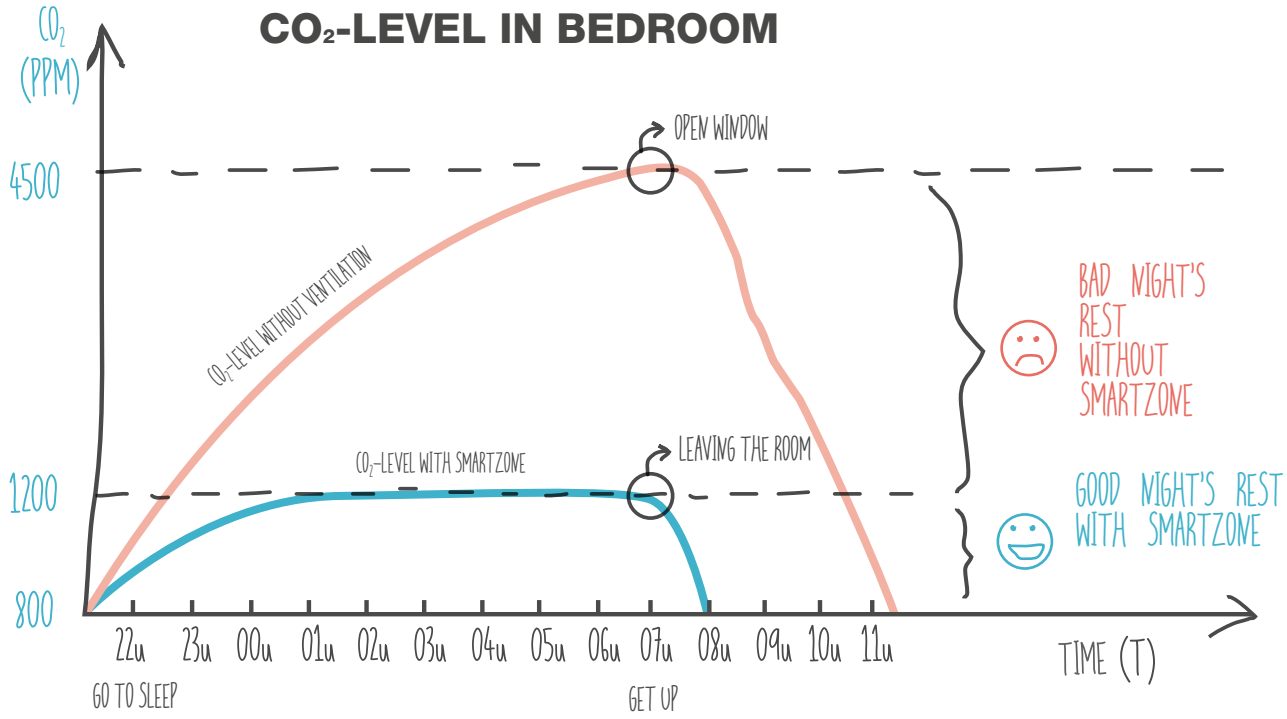




ppm: parts per million

A Healthy night´s rest due to SmartZone-technology

Did you know the CO_2-level can rise significantly in an unvented bedroom? Only by breathing, 450 litres of CO_2 is produced per person. Therefore continuously and controlled ventilation should not be an unnecessary luxury.
The Smartzone control valve is equipped with CO_2 detection that allows complete control of the indoor air quality in each bedroom of your home, which contributes to a good night´s sleep.



Intelligent ventilation,
wherever you happen to be !

During the day,
mainly the living rooms
will be ventilated.

During the night,
ventilation is mainly
required in the bedrooms.

Types of configuration

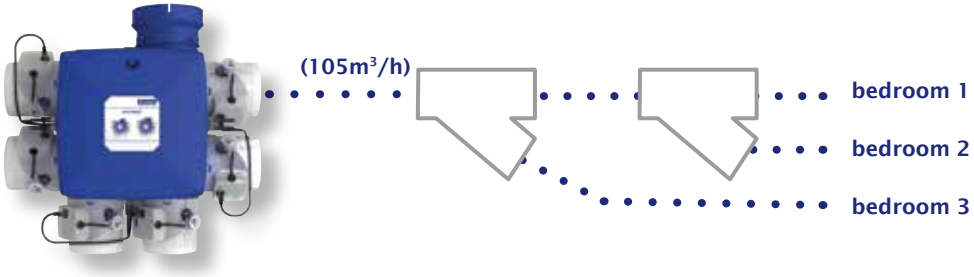
Configuration A

- Demand-controlled ventilation in all wet rooms

SmartZone(s)

Configuration B

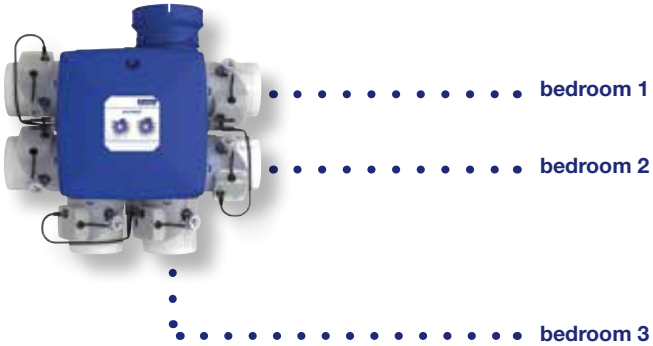
- Demand-controlled ventilation in all wet rooms
- Demand-controlled ventilation in all bedrooms, where one control module is connected to max. 3 bedrooms via a plenum



Kit for bedrooms
105 m³/h
CO_2 : 800ppm

Configuration C

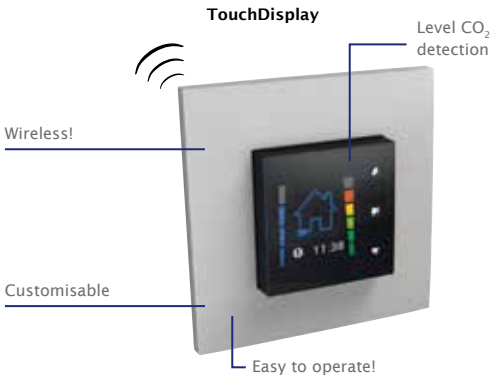
- Demand-controlled ventilation in all wet rooms
- Demand-controlled ventilation in all bedrooms with all bedrooms operated by a separate control module



Kit for bedrooms
30 m³/h
CO_2 : 900ppm

TouchDisplay

The unique wireless control system, with colour screen, informs the residents about the air quality of the room it's placed in at all times of the day, and shows how the ventilation system improves the quality of the indoor air.



Customisable program

Several ventilation modes can be activated manually or by programmation.

Example of a personalized program:

HDC-Mode
a program that offers you more comfort during periods other than the heating season.

EmptyhouseMode
lowest ventilation position, ex. when leaving the house (avoids overventilation)

EcoMode
ventilation with minimal energy loss during the heating season.

BoostMode
a temporary program that provides maximum ventilation (for example presence of visitors).

Breeze mode
ventilation with nominal airflows (for example for ventilative cooling)

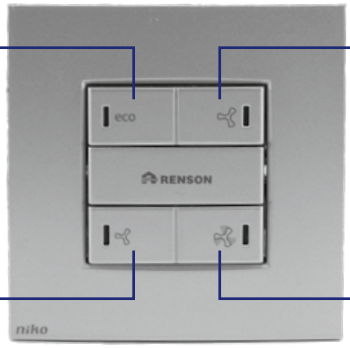
KitchenMode
ensures that the ventilation system uses to its full capacity to polluted air in the kitchen.

4-position switch (XVK4) (standard)

The four-position switch is a wired button that provides feedback about the status of the ventilation group via blue LEDs.
The switch allows us to make a selection from 4 programs:

EcoMode
ventilation with minimal energy loss during the heating season.

EmptyHouseMode
lowest ventilation position, ex. when leaving the house (avoids overventilation).



HDC-Mode
a program that offers you more comfort during periods other than the heating season.

BoostMode
a temporary program that provides maximum ventilation (for example presence of visitors).

Summary

The following table summarizes the different configurations available.

	Healthbox® II	Healthbox® II with Smartzone(s) kit	Healthbox® II Touch	Healthbox® II Touch with Smartzone(s) kit
	Natural air supply by window vents (P3 - P4) with self-regulating valve			
Application field				
- Residential living	✓	✓	✓	✓
- Appartments	✓	✓	✓	✓
- New built houses	✓	✓	✓	✓
- Renovation	✓	✓	✓	✓
SAP appendix Q certified* (UK)	✓	✓	✓	✓
Operation/ comfort				
Automatic calibration	✓	✓	✓	✓
Control				
- 4-position switch	✓	✓	-	-
- TouchDisplay	-	-	✓	✓
Kitchen mode	-	-	✓	✓
Detection				
Control valve: humidity and/or VOC or CO_2 detection	✓	✓	✓	✓
CO_2 detection in TouchDisplay	-	-	✓	✓
CO_2 detection in bedroom(s)	-	✓	-	✓
Configuration (see page 11)	A	B C	A	B C

** Certification for Healthbox with 6 connections*

Benefits

Healthbox, the most price friendly solution

- The demand controlled ventilation reduces the heat loss in your home and reduces the energy consumption of the fan. The total reduction of this energy can be equal or more compared to a heat recovery (MVHR) unit.
- Low investment cost.
- Low maintenance cost.

Control valve

- Measures 24h a day the air quality in the house, for control of humidity and/or odour or CO_2.
- Individual extraction per room according to the measured air quality.
- Electronic sensors, for a precise and quick detection.

Breeze function

The Breeze-function supports the risk-down of overheating in the house.

A silent system

The Healthbox satisfies the most stringent noise standards.

SD card

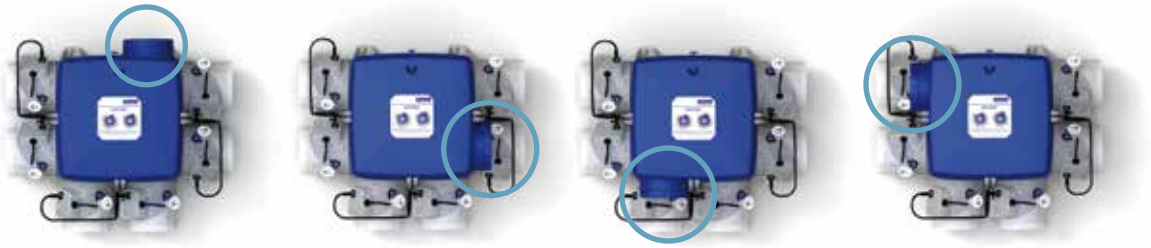
Integrating an SD card provides a record of the actions and allows software updates.

Easy and quick installation

- Automatic calibration in 7 minutes average
  - Flawless
  - Gain of installation time
- Configurable control valves, so each type of configuration can be made easily with a few different standard control valves

Direction-adjustable extraction

Easily rotate the upper of the fan unit in four directions, to avoid bends in the extraction duct to the outside. The absence of sharp bends in the extraction duct results in easy installation lower noise levels, lower pressure loss, and therefore lower energy consumption.



Creating healthy spaces

RENSON®: your partner in ventilation and sun protection

RENSON®, headquartered in Waregem (Belgium), is a trendsetter in Europe in natural ventilation and sun protection.

- ***Creating healthy spaces***
  From 1909, we've been developing energy efficient solutions assuring a healthy and comfortable indoor climate. Our remarkable headquarters - built according to the 'Healthy Building Concept' – is a beautiful example portraying our corporate mission.
- ***No speed limit on innovation***
  A multidisciplinary team of more than 80 R&D employees continually optimize our products and develop new and innovative concepts.
- ***Strong in communication***
  Contact with the customer is of the utmost importance. A group of 100 in-the-field employees worldwide and a powerful international distribution network are ready to advise you on site. EXIT 5 at Waregem gives you the possibility to experience our products on your own and provides necessary training for installers.
- ***A reliable partner in business***
  We can guarantee our customers optimal quality and service thanks to our environmentally friendly and modern production sites (with automated powder coating line, anodisation line, uPVC injection molding machinery and mold making shop) covering an area of 95.000 m².

Dealer

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VENTILATION
SUNPROTECTION
OUTDOOR

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RENSON®
Creating healthy spaces

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