

# MECHANICAL VENTILATION





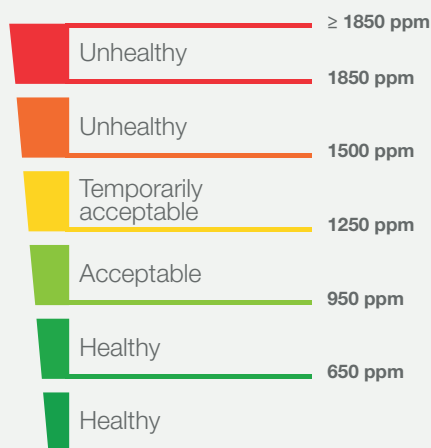
# WHY VENTILATE?

Contrary to what many people think, the inside air quality is on average 10 times worse than the outdoor air quality. Cooking, showering, heating, cleaning and even breathing and sweating ensure polluted air. Too much moisture inside also leads to odours, condensation and mould, especially in well insulated or insufficiently ventilated houses. And then there is the house itself, that, with volatile organic compounds [such as formaldehyde] in the building materials used, also has a bad effect on indoor air quality.

## GOOD FOR THE OCCUPANT AND THE HOME

Many people are convinced that occasionally opening the windows is enough to provide the necessary ventilation. However, the effect achieved is temporary and local. Moreover, ventilation through open windows is not controlled, resulting in costly energy loss. Open windows are also accompanied by noise nuisance and are an invitation to burglars and annoying insects.

Continuous and controlled ventilation is your only guarantee of a healthy indoor climate. The polluted inside air is discharged and continuously replaced by fresh outside air. The house will, as a result, be 'rinsed' with fresh air.



In the long run, a poor indoor climate can damage the residents' health. Respiratory problems, dry throat, eye irritation, headache, allergies, concentration loss, energy shortage or drowsiness are just some of the possible consequences. That is why it is extremely important to maintain thorough ventilation on a regular basis.

## CO<sub>2</sub> MONITOR

The CO<sub>2</sub> concentration is an important indicator for good indoor air quality and can be measured with the Renson® CO<sub>2</sub>-monitor. The air quality becomes expressed in CO<sub>2</sub> particles per million air particles. [ppm = parts per million].

The maximum assumed value is 1200 ppm CO<sub>2</sub>. Above this value, people may suffer headache, drowsiness, fatigue or irritation of the mucous membranes at a CO<sub>2</sub> concentrations above 1000 ppm the concentration ability decreases.



# SYSTEM C+®

**Healthbox® 3.0:** demand & zone controlled extraction of polluted air

The Renson® C+ systems use a combination of self-regulating Invisivent window ventilations and demand-controlled discharge ventilation [**controlled per zone**] to create a pleasant and healthy indoor climate.



- Fresh outdoor air supply
- Drainage of polluted indoor air
- Fresh outdoor air for nightcooling
- Outdoor sun protection



## Healthbox® 3.0

Demand-controlled **zone controlled** extraction of polluted air from the home.

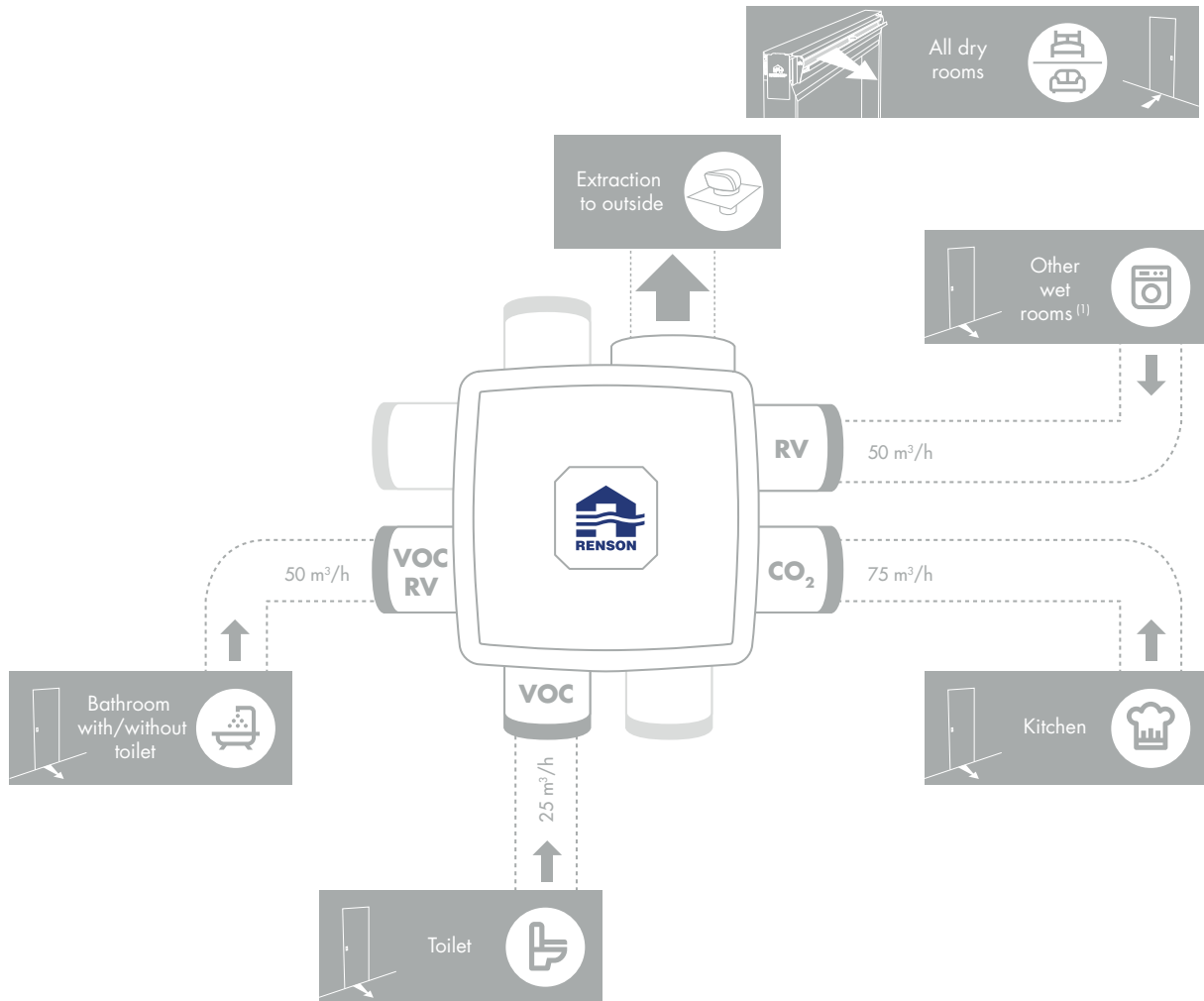
Healthbox 3.0 is equipped to ventilate up to 7 rooms as standard. By using valve collectors, it is possible to ventilate up to 11 rooms.

# SYSTEM C+®

Healthbox® 3.0: demand & zone controlled extraction of polluted air

0,9

Smart - 0,90



Each valve controls a maximum of 1 local.  
 RV = Relative humidity detection    VOC = Volatile organic components detection    CO<sub>2</sub> = Carbon dioxide detection  
 The position of the valves can be freely determined.  
 Breeze function present = demand controlled automatic deactivation in case of overheating  
 The air flows displayed are only indicative. Minimum air flow to be determined in accordance with EPB decision.  
<sup>(1)</sup> laundry room, drying room or analogue room

Shading factors	
$f_{\text{reduc,vent,heat}}$	= 0,90
$f_{\text{reduc,vent,cool (3)}}$	= 1,00
$f_{\text{reduc,vent,overheat (3)}}$	= 1,00

Building application from 2015 onwards

## Basic package Healthbox® 3.0

### Kit Healthbox 3.0

1 x Healthbox 3.0 motor unit  
1 x kitchen kit  
1 x bathroom kit with toilet  
1 x toilet kit



## Kit

**Kitchen kit** CO<sub>2</sub>  
**Bathroom kit** VOC + H<sub>2</sub>O  
**Toilet kit** VOC  
**Laundry room kit** H<sub>2</sub>O



## Kit valve collector

### T-piece

1 x T-piece  
2 x adaptor 125-80

### Print

1 x print  
2 x self tapping screw  
1 x patch cable 0.5 m



## Cover plate

Cover plate Puro Ø80  
Cover plate Puro Ø125

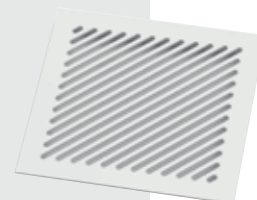
Cover plate Square Ø80  
Cover plate Square Ø125

Cover plate Diagonal Ø80  
Cover plate Diagonal Ø125

Cover plate Aqua Ø80  
Cover plate Aqua Ø125

Cover plate Artist Ø80  
Cover plate Artist Ø125

Cover plate Deco Ø80  
Cover plate Deco Ø125



## Design valves

SQair extraction valve [Deluxe]  
SQair extraction valve [Basic]



# TECHNICAL DATA SHEET:

## Healthbox® 3.0

### ITEM CODE

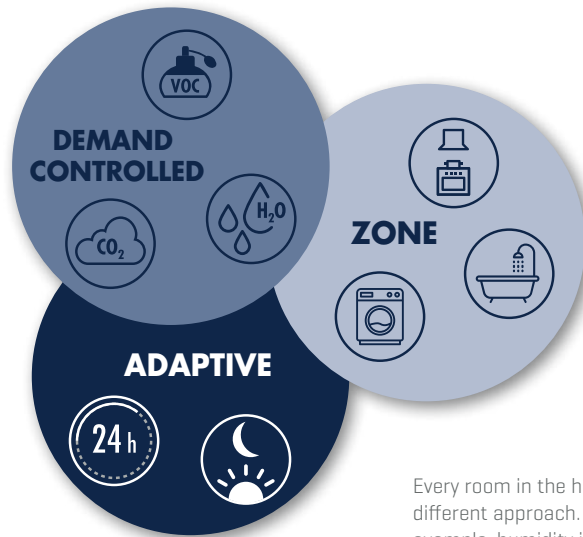
Item code	Designation	Main components
HB100	Healthbox 3.0 kit	<ul style="list-style-type: none"> <li>Healthbox 3.0 fan unit</li> <li>Control valves: kitchen - bathroom - toilet</li> </ul>
HB101	Healthbox 3.0 SmartZone kit	<ul style="list-style-type: none"> <li>Healthbox 3.0 fan unit</li> <li>Control valves: kitchen - bathroom - toilet - two bedrooms</li> </ul>

### SYSTEM SPECIFICATIONS

<b>Type of ventilation</b>	Mechanical demand-controlled extraction
<b>[Max.] ventilation flow rate</b>	475 m <sup>3</sup> /h [at 135 Pa] 430 m <sup>3</sup> /h [at 200 Pa] <i>Fan specifications: see technical drawings</i>
<b>Supply voltage</b>	230 VAC ±10% [50 Hz, 60 Hz] <i>Mains plug included</i>
<b>Fan unit rated power</b> - At max. flow rate of 150 m <sup>3</sup> /h: - At max. flow rate of 225 m <sup>3</sup> /h: - At max. flow rate of 325 m <sup>3</sup> /h: - At max. flow rate of 400 m <sup>3</sup> /h: - At max. flow rate of 475 m <sup>3</sup> /h:	28 watts 35 watts 53 watts 80 watts 85 watts <i>See graphs</i>
<b>Dimensions:</b> - Fan unit without control valves - Fan unit with control valves	390 x 443 x 200 mm [LxWxH] 567 x 567 x 200 mm [LxWxH] <i>See technical drawings</i>
<b>Connection dia. for intake duct</b>	Choice via adaptor: 80 and/or 125 mm dia.
<b>Connection dia. for extraction duct</b>	Choice via adaptor: 125 or 150 mm dia. <i>[160 mm dia. via optional ring]</i>
<b>Fan</b>	Extremely quiet & energy-efficient EC motor with 180 mm dia. impeller. Active variable pressure control: the lowest possible pressure level is set in each case consistent with the required extraction flow rates.
<b>Maximum fan operating pressure</b>	350 Pa - Recommended operating pressure at design flow rate: ≤ 200 Pa - Target value for a very good operating pressure at design flow rate (cf. TV No. 258): ≤ 100 Pa
<b>Calibration readout</b>	Via user app, installer app & Renson web portal
<b>Automatic calibration of ventilation flow rates</b> <i>[patented]</i>	Takes place in 2 successive stages: - Stage 1: pressure drop readings taken automatically in all air ducts - Stage 2: valve positions for air distribution calculated automatically
<b>Maximum number of connection points for extraction:</b> - Basic form - Using valve collectors	7 11 <i>[subject to a few limiting conditions]</i>
<b>Valve collector</b>	1 or 2 valve collectors to be connected to the fan unit, with 1 to 3 control valves to be connected to each valve collector. The valve collector can also be connected remotely from the fan unit. Electrical connection [UTP cable Cat 5e, wire gauge 24AWG, 30 metres max.].
<b>Connections</b>	- 1x LAN connection - 2x USB connection <i>[USB dongle for Wi-Fi connection included]</i> - Inputs: 3x DIGITAL, 1x ANALOGUE [0-10 V] - Outputs: 2x DIGITAL, 1x ANALOGUE [0-10 V]
<b>Breeze function</b>	Temporary nominal ventilation [= demand control deactivated] at times when there is a given cooling need [= optimum shading factors]

# SMART VENTILATION

Because people are unable to see air, we need sensors that analyse the air quality for us. A ventilation system should at least monitor and automatically adjust humidity and VOC/CO<sub>2</sub> levels.



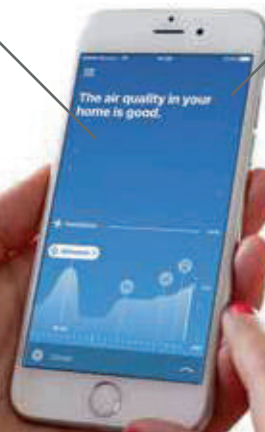
Ventilation is not only smart, but also takes into account the lifestyle of the occupant and the occupancy rate of the property. By adjusting the ventilation level in accordance with these parameters, you can avoid a lot of unnecessary energy consumption [on average 30 % to 50 % compared to a non-demand controlled ventilation system].

Every room in the house requires a different approach. In the bathroom, for example, humidity is the biggest problem, while odours and CO<sub>2</sub> levels are the main culprits in a toilet or a bedroom. That's why it's best to regulate the ventilation level of each room separately.

In addition, Waves can refresh the air from adjacent rooms [such as bedrooms] based on the air quality of the extracted air [e.g. Waves in the bathroom].

Interactive app informs the occupant about the indoor air quality 24/7

Customisable

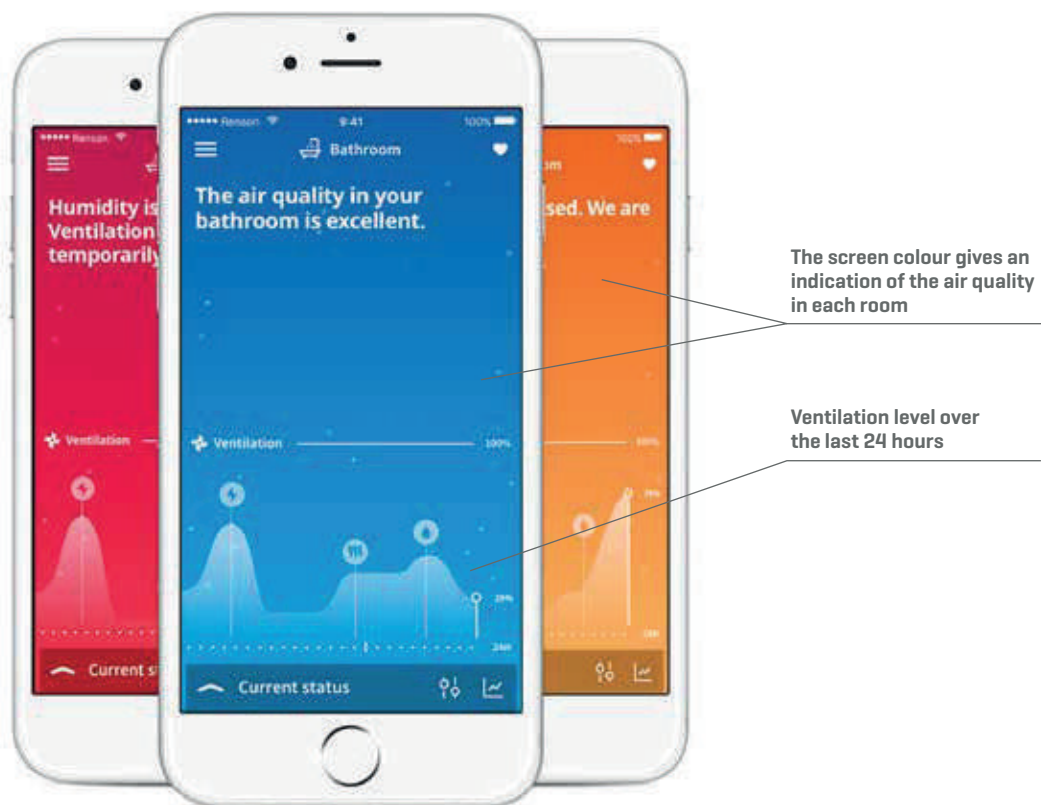


# A CLEAR VIEW ON AIR QUALITY

## SMARTCONNECT

The integrated SmartConnect system bridges the gap between Waves and the digital world. It allows the user to interact with the device through the app. This app will not only help you set up Waves, but it will also monitor changes in air quality which you can always keep track of. In addition, SmartConnect will keep you informed on new features and will perform software updates automatically.

*\* Our app complies with the European regulation on data protection [GDPR].*



### SILENT MODE

Another convenient setting is silent mode: use this to lower the flow rate during certain hours, for example at night.

**DOWNLOAD  
THE APP**



GET IT ON  
Google Play

Download on the  
App Store

**WWW.MY-LIO.EU**

# KITS HEALTHBOX® 3.0

## Kitchen kit

Kitchen valve  
Grill base Ø125 + plaster cardboard  
Strap Ø60-165  
0.5m patch cable



## Bathroom kit

Bathroom valve  
Grill base Ø125 + plaster cardboard  
Strap Ø60-165  
0.5m patch cable



## Toilet kit

Toilet valve  
Grill base Ø80 + plaster cardboard  
Strap Ø50-90  
0.5m patch cable



## Laundry room kit

Laundry room valve  
Grill base Ø125 + plaster cardboard  
Strap Ø60-165  
0.5m patch cable



## Bedroom kit

Bedroom valve  
Grill base Ø125 + plaster cardboard  
Strap Ø60-165  
0.5m patch cable





Exclusive Distributor for Renson

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2<sup>nd</sup> Floor The Network, Rd# 9 Jubilee Hills Besides TV5  
News Office Lane, Hyderabad 500033. Telangana. India.  
[www.cleair.in](http://www.cleair.in) | [sales@cleair.in](mailto:sales@cleair.in) | +91 98480 34491