

*Note to the specifier:*

- *The description for mechanical ventilation exhaust should be integrated in the ventilation & air-conditioning section (for VMSW: article 68.31).*
- *The transit for ventilation is to be described in the part interior doors & windows (for VMSW: art. 54.81.10)*
- *The supply for ventilation is to be described in the part exterior doors & windows (for VMSW: art. 40.30)*

## DESCRIPTION PRODUCT

**Waves** provides demand-controlled mechanical air extraction and detection in one individual room. The electronically controlled control module is integrated in the housing.

- **Art 66000003** - Waves CO<sub>2</sub> – Humidity, temperature, VOC (scent) and CO<sub>2</sub>
- **Art 66000004** - Waves – Humidity, temperature and VOC (scent)

## APPLICATION

**Waves** is developed for the controlled decentralised extraction of used air in a room of a house or flat.

Optimal functioning of **Waves** is guaranteed when the following three matching components are present:

<u>Supply:</u>	Self-regulating Renson® window vents
<u>Transit:</u>	Silendo door grille
<u>Extraction:</u>	Waves: motor unit with decentralised fan + 3 sensors (RH - Relative humidity, VOC and CO <sub>2</sub> ) Discharge grille: Renson® 434 RD and 641 (without insect screen or a grille with a non-return valve)

## PRODUCT SPECIFICATIONS

### Electrically controlled regulation:

- **Decentralised mechanical demand-led drainage** per wet room
- **VOC sensor**
- **RH sensor**
- **Optional: CO<sub>2</sub> sensor**
- **Electronic sensors:** measure the air quality in the exhaust air flow 24/24h. The plug-in PCB with sensor(s) is installed on the PCB of the control module and programmed in production.
- **Exhaust air control module:** automatic control that will exhaust more or less air depending on the measured air quality:
  - Absolute CO<sub>2</sub> detection: proportional control in function of the CO<sub>2</sub> level (applicable: kitchen, living room, office, playroom and equivalent spaces, not suitable for bedrooms).
  - Dynamic and absolute humidity detection: dynamic and proportional control in function of the relative and absolute humidity trend (appl.: laundry room, bathroom, kitchen, or equivalent spaces).
  - Dynamic VOC detection: dynamic control in function of the course of the VOC level (application: toilet, bathroom with toilet)

At the initial start-up with the installation app, the correct automatic control is loaded depending on the country selection.

### Fan

- **Connection:** plug & play fixed connection (tube of 100mm or 125mm) on the wall opening and on the other hand connect electrically controlled fan (230V).
- **Automatic calibration:** occurs in 2 phases:
  - Stage 1: automatically measuring the pressure loss in the air duct
  - Stage 2: Automatic calculation of fan speed for nominal air extraction.
- **Fan with EC motor:** impeller ø92mm (ABS plastic) for extremely quiet and energy-saving operation
- **Fan control:** The unit has a variable pressure control. The lowest possible pressure level is set according to the required extraction rates.

- **System option** by combining several Waves in one house. The different Waves are all operated with the same app
- To be combined with **extraction grilles** without insect screen, as an extraction point in the room. The telescopic tube from the Renson range offers the best combination here.  
Attention! A grille without insect screen is only good if a continuous system is used. Waves will undoubtedly also be installed as a discontinuous system (e.g. with a switch). Of course, this will not be according to the installation instructions! Here, there may be a problem with insects when the ventilation is off. The CO2 sensor can also detect the CO2 level of adjacent rooms. Providing a natural supply in the dry areas (bedrooms, office, living room, etc.) will also improve the air quality here.

#### SmartConnect:

- **Digital communication:**
  - Communication with the resident: via app private & professional installer
  - Communication with the installer: via app private & professional installer
- **App installer:** the application for the professional installer and end user are integrated in the same application. Both the installer and the end user can go through and initiate the installation process: start calibration with display of the remaining time, display installation parameters and insert measurement results for automatic generation of the measurement report, read out pressure loss per connected air duct.
- **App resident:** the application for the professional installer and end user are integrated in the same application. Both the installer and the end user can go through and initiate the installation process: start calibration with display of the remaining time, display installation parameters and insert measurement results for automatic generation of the measurement report, read out pressure loss per connected air duct. The end consumer can also consult the real-time/historical air quality and ventilation level in the home, down to room level via the application. Colours give an indication of the air quality per dwelling/room. Setting ventilation profiles.
- **App installateur:** de applicatie voor de professionele installateur en eindgebruiker zijn geïntegreerd in **Automatic software update**
- **Fault message** via the app

#### SPECIFICATIONS

- **Dimensions Waves:**
  - Device: 185 x 185 x 50 (LxBxH)
  - Packaging: 222x206x128mm (LxBxH)
  - Weight device + packaging: 800 gram
- **Maximum fan working pressure:** 120Pa
- **Exhaust gas flow rate Waves:**
  - 75 m<sup>3</sup>/h bij 38 Pa pump head
  - 50 m<sup>3</sup>/h bij 80 Pa pump head
  - 25 m<sup>3</sup>/h bij 120 Pa pump head

#### OPERATIONS

Possibility of (temporary) manual adjustment (via the app) of the ventilation flow rate.

- Silent modus
- Boost modus (boost operandi also possible via manual operation on the unit via the blue button)

#### REDUCTION FACTORS RESIDENTIAL

- **Waves** is included in the EPB product database - VENTILATOR AND VENTILATION GROUP
- Waves can be applied as an individual fan, as an autonomous system with different waves (System C+ Waves - Smart 0.90) or can be integrated in the system C+ Healthbox 3.0 within the configuration Smart 0.90 and Smartzone 0.43/0.50/0.61.

- Outer grille 434RD and 641
- Telescopic pipe in Renson range (100 and 125 mm)
- In principle, all RTOs of Renson can be applied in combination with Waves. The Invisivent Comfort can only be used in rooms where there is also effective exhaust. For all other RTOs, it does not matter whether there is a mechanical exhaust in the room.

#### COMBINABLE PRODUCTS

- **Outer grille 434RD and 641**
- **Telescopic pipe in Renson range** (100 and 125 mm)
- In principle, all RTOs of Renson can be applied in combination with Waves. The Invisivent Comfort can only be used in rooms where there is also effective exhaust. For all other RTOs, it does not matter whether there is a mechanical exhaust in the room.