

# ORCON

Installation manual

## **MVS-15RH** Domestic ventilation



This manual is intended for users and installers of the MVS-15RH mechanical ventilation system. This manual contains important information about the installation and configuration of the domestic ventilator.

The user manual can be found at the back of this manual.

This manual concerns the following models:

MVS-15RH, MVS-15RHB, MVS-15RHP, MVS-15RHB CO<sub>2</sub>



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## 1. Safety

Read this manual carefully before you mount or use the device. The following icons are used in this manual.



Indicates the risk that the device will be damaged if the instructions in this manual are ignored.



Indicates electrical voltage.

1. Only a professional installer may install, connect, commission and maintain the device unless otherwise specified in this document;
2. The installation of the device must be performed in accordance with the general and locally applicable construction, safety and installation instructions of the municipality and power company;
3. When performing work on the device, ensure that it is disconnected from the power supply and cannot be accidentally reconnected. Bear in mind that after disconnection from the power supply, the motor will keep running for approx. 20 seconds.
4. The device is only suitable for a 230 V 50 Hz connection;
5. Modification of the device or the specifications listed in this document is not permitted;
6. The device is only suitable for residential buildings and not for industrial use, such as swimming pools or saunas;
7. The device cannot be opened without the use of tools, see Chapter 5;
8. This ventilation device creates negative air pressure in the home. It is important to ensure that no exhaust gases from a fireplace, stove or other combustion devices can be sucked into the home. It is important that an outside

air inlet with sufficient dimensions is always provided for the (open) combustion device.

9. It must be impossible to touch the fans by hand, therefore ducting at least 900 mm long must be used.
10. Mount the domestic ventilator out of the reach of children.
11. After use, place this manual, together with the user part at the front, back into the device;

## 2. Installing the MVS-15RH domestic ventilator

The MVS-15RH consists of a suction plenum with five  $\varnothing$  125/160 mm suction openings and one  $\varnothing$  125 mm outlet opening. A volute with inlet ring containing a motor plate with front cover. The connection openings are provided with caps which can be easily removed. The motor and the receiver PCB are mounted on the motor plate. The humidity sensor is on the receiver PCB .

### Steps for installing the MVS-15RH

1. Mount the MVS-15RH device on a wall or ceiling with sufficient mass (200 kg/m<sup>2</sup>).
2. Install a silencer at least 1 metre long.
3. Mount the air ducts with as little air resistance as possible, and free from leakages.
4. Limit the use of flexible tubes as much as possible.
5. Cap the unused openings on the suction side with the supplied caps.
6. Mount the Orcon extraction valves in the various spaces.
7. Mount the required remote control(s) and CO<sub>2</sub> sensor(s) (BRH models only)
8. Connect the MVS-15RH device to the power supply.
9. Pair separately supplied remote control(s) and/or CO<sub>2</sub> sensor(s).

**If there is more than one remote control, always switch the device on and off before pairing.**

- 10.. Set the DIP switches of the MVS-15RH device on the receiver PCB, and adjust the valves. See the chapter 'Adjustment of air volume'.

## Installation

The installation must be implemented with as little resistance as possible in the ducts. Long flexible tubes must be avoided. The caps must not be removed from any unused inlets. The device is mounted to the wall or ceiling with the four supplied screws and plugs.

## Rear connections

At the rear of the suction plenum, an opening is prepared for rear connections directly to the wall or the ceiling. If these connections are used, the gap must be opened with a Stanley knife. The plenum box can be sealed using sealing tape (not included).

When using the  $\varnothing$  160 mm connection under or behind the unit, cut the adapter/pyramid away with a Stanley knife.

## Mounting RF remote control (MVS-15RHB)

The remote control can be opened via the push button (see figure 6), which is located on the underside. The wall frame can then either be mounted with the 2 supplied screws and plugs or be stuck in place. Please note: "UP" is marked on the mounting frame, when mounting make sure that this is at the top. Keep enough space free around the underside

so that the push button can be easily reached from below. It is recommended that the remote control is installed in an easily accessible place in the living room, kitchen or lavatory. Never install the remote control near large metal objects, and keep the remote control out of the reach of children.

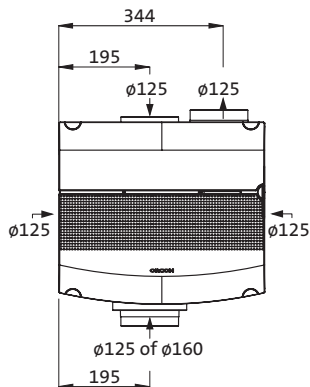


Fig. 1 MVS-15 Connections

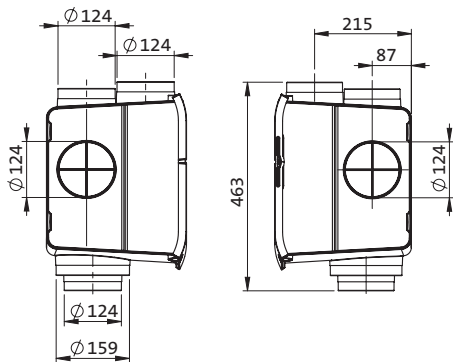


Fig. 2 Side view MVS-15

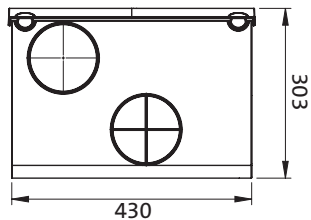


Fig. 3 Top view MVS-15

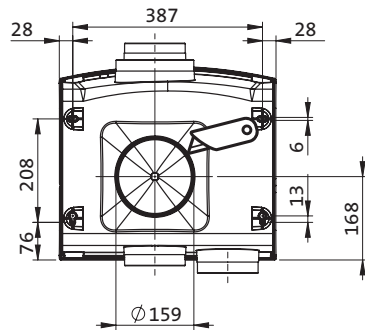


Fig. 4 Rear view with  $\varnothing 160$  mm connection

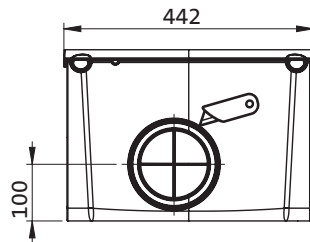


Fig. 5 Base view with  $\varnothing 125$  mm and  $\varnothing 160$  mm connection

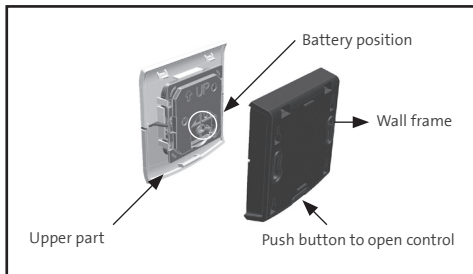


Fig. 6 Exploded view RF remote control

### 3. Electrical installation

List of colour codes of power supply wiring	
Code	Colour
PE	Green / Yellow
N	Blue
L	Brown
M	Black (MVS-15RHBP)
H	Grey (MVS-15RHBP)

List of DIP switch functions		
Options	DIP switch	
	7	8
Table A curve speeds	Off	-
Table B curve speeds	On	-
15-minute afterrun humidity sensor	-	Off
30-minute afterrun humidity sensor	-	On

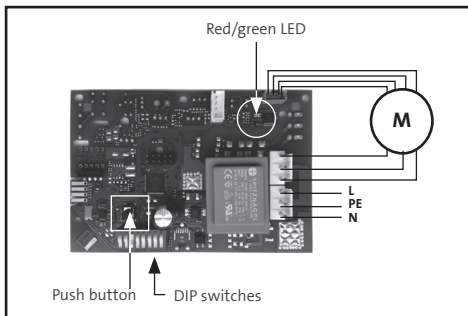


Fig. 7 Receiver PCB in the device

### **MVS-15RHP**

This model of the device is powered via a cord with Perilex (P) plug. Please note! An existing 3-position switch no longer has any function.

### **Electrical connection domestic ventilator**

The MVS-15RH is equipped with a cord and earthed plug for connection to the power supply. The device can be switched to four positions, and is equipped with an automatic mode. The connection of the device must comply with NEN 1010 and any applicable local requirements. Do not insert the plug into the wall socket until everything is installed.

The device is not suitable for three-phase current.  
Supply voltage: 230 V ~50 Hz.

## **4. Adjustment of air volume**

1. Close the windows and doors.
2. Set the extraction valves and (ZR) grilles to their fully open positions.
3. Set the device to position 2 or 3 (depending on the size of the home).
5. Open the front cover of the device with a flathead screwdriver.
6. Set the system to the correct total capacity using the DIP switches.
4. Measure the total air volume in the Orcon extraction valves and adjust where necessary.
7. Adjust the extraction valves to the correct flow rate for each space.
8. Complete the installation report (page 18).

On the receiver PCB, a curve can be set with the DIP switches for each position. The factory settings are curves 1a, 3a and 11a (\* in table A).

Position	Table a curve speed	DIP switch position							Air output	Pressure	Power consumption
		Setting									
	(Number)	1	2	3	4	5	6	7	[m <sup>3</sup> /h]	[Pa]	[W]
<b>Absent</b>	0	-	-	-	-	-	-	-	45	5	2
<b>*Low</b>	1a	Off	-	-	-	-	-	Off	70	10	3
<b>Low</b>	2a	On	-	-	-	-	-	Off	85	14	4
<b>*Medium</b>	3a	-	Off	Off	Off	-	-	Off	150	46	7
<b>Medium</b>	4a	-	On	Off	Off	-	-	Off	171	62	9
<b>Medium</b>	5a	-	Off	On	Off	-	-	Off	197	81	12
<b>Medium</b>	6a	-	On	On	Off	-	-	Off	222	101	15
<b>Medium</b>	7a	-	Off	Off	On	-	-	Off	245	123	20
<b>Medium</b>	8a	-	On	Off	On	-	-	Off	270	150	27
<b>Medium</b>	9a	-	Off	On	On	-	-	Off	293	175	32
<b>Medium</b>	10a	-	On	On	On	-	-	Off	316	205	38
<b>*High</b>	11a	-	-	-	-	Off	Off	Off	245	123	20
<b>High</b>	12a	-	-	-	-	On	Off	Off	295	177	33
<b>High</b>	13a	-	-	-	-	Off	On	Off	318	208	40
<b>High</b>	14a	-	-	-	-	On	On	Off	342	241	50



Position	Table b curve speed	DIP switch position							Air output	Pressure	Power consumption
		Setting									
	(Number)	1	2	3	4	5	6	7	[m <sup>3</sup> /h]	[Pa]	[W]
Absent	0	-	-	-	-	-	-	-	58	3	2
Low	1b	Off	-	-	-	-	-	On	83	9	4
Low	2b	On	-	-	-	-	-	On	138	14	5
Medium	3b	-	Off	Off	-	-	-	On	165	20	6
Medium	4b	-	On	Off	-	-	-	On	215	34	10
Medium	5b	-	Off	On	-	-	-	On	271	53	16
Medium	6b	-	On	On	-	-	-	On	324	77	25
High	7b	-	-	-	Off	Off	Off	On	298	65	29
High	8b	-	-	-	On	Off	Off	On	353	92	31
High	9b	-	-	-	Off	On	Off	On	381	107	38
High	10b	-	-	-	On	On	Off	On	405	121	45
High	11b	-	-	-	Off	Off	On	On	428	134	52
High	12b	-	-	-	On	Off	On	On	452	149	60
High	13b	-	-	-	Off	On	On	On	475	163	69
High	14b	-	-	-	On	On	On	On	502	184	82

Table B - Table A or B is selected by setting DIP switch 7 to on or off.

**Table 3 DIP switch function 7 and 8**

Options	DIP switch	
	7	8
Table A curve speeds	Off	-
Table B curve speeds	On	-
15-minute afterrun humidity sensor	-	Off
30-minute afterrun humidity sensor	-	On

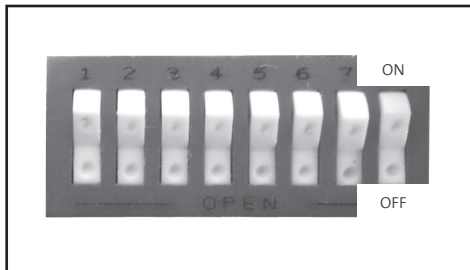


Fig. 8 DIP switches set to OFF in MVS-15RH

## 5. Configuration and pairing

The MVS-15RH is equipped with a receiver PCB on the motor plate. A separate remote control and/or CO<sub>2</sub> room sensor must be paired with the receiver PCB.

### Device start up

When the device is connected to the power supply: during start up, the LED on the device flashes alternately red, green, red. Then the LED on the device turns green for 3 minutes, during which time the device is in learning mode and can be linked to a remote control or CO<sub>2</sub> room sensor. The MVS-15RH always starts up in automatic mode.

The MVS-15RH is also equipped with a humidity sensor. This is integrated in the ventilation cabinet. A number of settings for the functions of this sensor are possible.

**DIP switch 8 = OFF / Normal setting.**

15-minute overrun\*

**DIP switch 8 = ON / Extended setting.**

30-minute overrun

\* Factory setting

In automatic mode, the MVS-15RH will switch to position 2 when humidity levels increase. The time that the domestic ventilator continues to operate in this mode depends on the setting of DIP switch 8 and the duration of the increased levels of humidity.

### **Pairing remote control(s) to 1 device**

The remote control is paired with the MVS-15RHB (CO<sub>2</sub>) at the factory. Up to a total of 20 components can be linked to the device.

### **Pairing extra remote control(s)**

Remove the plug of the device from the power point for 5 seconds. Then reinsert the plug into the power point. The LED on the device flashes alternately red and green, after which the LED remains green. The device will be in learning mode for 3 minutes. During this time, you can pair remote control(s) by pressing the buttons <1> and <auto> simultaneously until the LED on the remote control flashes alternately red, green, red. When the remote control has been successfully paired, the LED on the device and remote control will flash green 10 times, and the device will briefly accelerate. The remote control is now ready for use.

### **Reset remote control**

A remote control can be reset by pressing the <absent> and <timer> buttons simultaneously for 3 seconds. The remote control indicates that the reset is complete by flashing orange twice.

### **Setting the CO<sub>2</sub> room sensor**

The CO<sub>2</sub> room sensor is paired with the MVS-15RHB CO<sub>2</sub> at the factory.

Connect the CO<sub>2</sub> room sensor to the power supply. During start up of the CO<sub>2</sub> room sensor, the orange, green and blue LEDs light continuously. The LED on the CO<sub>2</sub> room sensor flashes red when it is not paired. When the CO<sub>2</sub> room sensor is paired, the status LED will turn and stay green. The CO<sub>2</sub> room sensor is now ready for use.

### **Pairing extra CO<sub>2</sub> room sensor(s)**

Remove the plug of the device from the power point for 5 seconds. Then reinsert the plug into the power point. The LED on the device flashes alternately red and green, after which the LED remains green. The device remains in learning mode for 3 minutes. Briefly press the control

button on the CO<sub>2</sub> room sensor once, the red LED flashes. Then press the button for 7 seconds until the blue LED on the CO<sub>2</sub> room sensor lights up and the status LED flashes alternately red and green. When the CO<sub>2</sub> room sensor has been successfully paired, the green LED on the device and on the CO<sub>2</sub> room sensor will flash 10 times as confirmation, and the device briefly accelerates to the high level. The CO<sub>2</sub> room sensor is now ready for use. Pairing an additional CO<sub>2</sub> room sensor is carried out in the same way as pairing CO<sub>2</sub> room sensor number 1.

#### **Unpairing remote control(s) and CO<sub>2</sub> room sensor(s) on the device**

Remove the cover from the device. Press the push button on the receiver PCB in the device for 15 seconds until the LED turns orange. Release the push button. After release, the LED on the receiver PCB flashes alternately red, green, red. Any connections with the remote control(s) / CO<sub>2</sub> room sensor(s) are now deleted and the factory settings are loaded. The LED on the receiver PCB remains green for 3 minutes, during which time the device is in learning mode and can be linked to components.

#### **Reset CO<sub>2</sub> room sensor**

A CO<sub>2</sub> room sensor can be reset to factory settings by pressing the control button for 11 seconds until the LED is simultaneously red and green (orange). Release the push button. The CO<sub>2</sub> room sensor is reset and restarts.

## **6. Service and maintenance**

The following parts of the Orcon ventilation system must be cleaned regularly:

- Housing - at least every 2 years;
- Fan - at least every 2 years;
- Humidity sensor - at least every 2 years;
- Remote control and CO<sub>2</sub> room sensor(s) (see maintenance in the user part);
- Valves and grilles - at least every 2 years;
- Ducts - at least every 4 years.

#### **Maintenance of device**

The MVS-15RH must be disconnected from the power supply before maintenance is carried out.

### Removing and installing front cover

Remove the plug from the wall socket. Open the front cover of the device with a flathead screwdriver (fig. 9), after which the front cover can be detached. The wiring, motor and the receiver PCB with the humidity sensor on the back are located behind this cover.

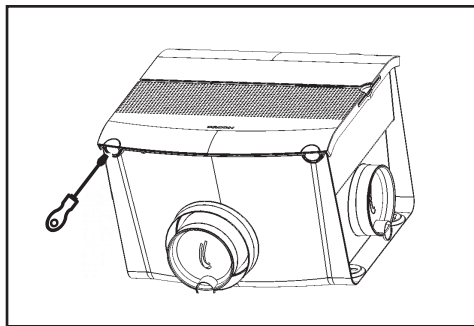


Fig. 9 Open MVS-15 front cover

### Removing and installing motor plate

After the front cover has been removed, the motor plate can be lifted out with the two handles (arrows fig. 10). You can now easily inspect or clean the motor and humidity sensor. Avoid imbalances by removing all dirt from the impeller.

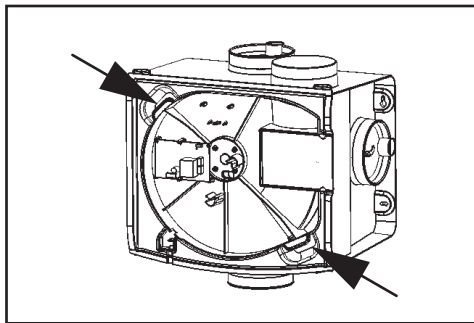


Fig. 10 Remove motor plate

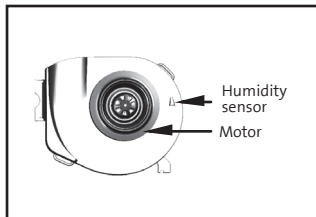


Fig. 11 Motor Plate with motor and humidity sensor

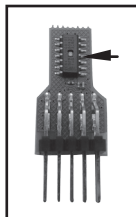


Fig. 12 Humidity sensor

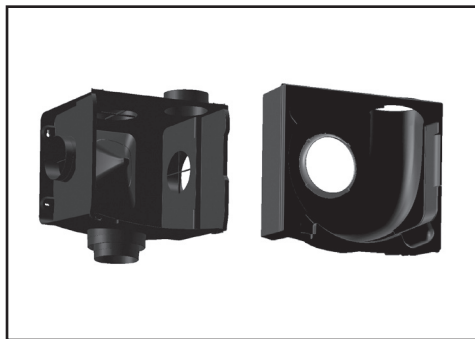


Fig. 13 Plenum box with volute and inlet ring

### Humidity sensor maintenance

The humidity sensor (fig. 11 and fig. 12) can be cleaned with a dry brush.

### Removing and installing volute

The volute can be detached from the suction plenum by gently pulling it out. You can now clean the suction plenum (fig. 13).

### Indication LED on the device

The green LED on the receiver PCB indicates the scenario status of the MVS-15RH. When the LED repeatedly flashes green once, the MVS-15 is operating normally. If the LED repeatedly flashes green twice, the MVS-15RH is in position 2 or 3 due to increased humidity levels. If the LED repeatedly flashes green three times, the MVS-15RHB CO<sub>2</sub> is in position 2 or 3 due to increased CO<sub>2</sub> levels. If the LED repeatedly flashes green four times, the MVS-15RHB is in position 3 due to the timer scenario.

A short orange flash indicates that a signal has been received from a CO<sub>2</sub>room sensor or remote control. The red LED indicates a fault code on the device.

**Table 5 List of scenarios shown on device**

Device indication green:	Function (notification)
Flashing green 1x	Normal operation, no humidity, CO <sub>2</sub> or timer signal.
Flashing green 2x	Humidity scenario active
Flashing green 3x	CO <sub>2</sub> scenario active (External CO <sub>2</sub> room sensor).
Flashing green 4x	Timer scenario active

**Table 6 List of error codes on device**

Device indication red:	Function (notification)
Flashing red 1x	Motor not running, check the motor
Flashing red 2x	No value from humidity sensor, check the humidity sensor
Flashing red 3x	RF communication failure

## 7. Technical data

<b>MVS-15RH</b>	
<b>Supply voltage:</b>	200-240 V single phase 50 Hz
<b>Current consumption</b>	0.8 A
<b>Max. power consumption consumption</b>	85 W
<b>Min. ambient temperature</b>	-10 °C
<b>Max. ambient temperature</b>	+40 °C
<b>Humidity (continual)</b>	95% (motor) non-condensing 85% (electronics), non-condensing
<b>Weight</b>	4.4 Kg
<b>Height</b>	389 mm
<b>Width</b>	449 mm
<b>Depth</b>	303 mm
<b>Height with connections</b>	467 mm

<b>RF CO<sub>2</sub> sensor</b>	
<b>Supply voltage:</b>	230 V
<b>Frequency</b>	50 Hz
<b>Max. power consumption</b>	4 W
<b>Temperature class</b>	T40
<b>Dimensions</b>	92 x 92 x 23 mm
<b>Weight</b>	125 g
<b>RF frequency</b>	868.3 MHz
<b>Min./max. ambient temperature</b>	0-40 °C
<b>RH level</b>	0-90% non-condensing
<b>Protection class</b>	IP30
<b>Functional range</b>	400 - 2000 ppm

<b>RF remote control</b>	
<b>Supply voltage:</b>	Powered by 3 V battery
<b>Temperature class</b>	T40
<b>Dimensions</b>	83 x 80 x 28 mm
<b>Temperature class</b>	T40
<b>Dimensions</b>	83 x 80 x 28 mm
<b>Weight</b>	125 g
<b>RF frequency</b>	868.3 MHz
<b>Min./max. ambient temperature</b>	0-40 °C
<b>RH level</b>	0-90% non-condensing
<b>Protection class</b>	IP30



## 8. Guarantee

Orcon BV guarantees the fan for two years as standard.

The guarantee period starts on the production date.

The guarantee is void if:

- The system is not installed in accordance with applicable regulations;
- The defects have been caused by incorrect connection, improper use or dirt in the fan or accessories;
- Changes have been made to the wiring;
- Repairs have been carried out by third parties.

On-site disassembly and assembly charges are not covered by the guarantee. If a defect occurs within the guarantee period, it must be reported to the installer. Orcon BV reserves the right to change the structure and/or configuration of its products at any time without being obliged to change previously supplied products. The data in this manual concerns the most recent information.

For extended guarantee, see Chapter 5 in the user part.

## 9. EC declaration of conformity



Orcon BV

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### Device description:

MVS-15RH domestic ventilator

### Meets directives:

Machinery Directive (2006/42/EC),

Low Voltage Directive (2006/95/EC),

EMC Directive (2004/108/EC),

RoHS directive (2002/95/EC),

R&TTE Directive (1999/5/EC).

Veenendaal, NL

M. Voorhoeve, General Manager

## 10. Installer's installation report

Installation report	
Date:	
Address:	
Town or City:	
Type of project:	
Type of property:	
Client:	
Installed by:	
Measured by:	
Type of device:	
Serial number:	

DIP switch	Setting
1	on/off
2	on/off
3	on/off
4	on/off
5	on/off
6	on/off
7	on/off
8	on/off

\* Circle applicable setting



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### 1. General introduction

#### **Orcon exceptional indoor climate?**

Our objective is to offer occupants an exceptional indoor climate which is as comfortable and healthy as possible, where people can feel at ease and function at their best. With this aim, we have grown into a leading supplier of ventilation systems for residential and nonresidential buildings.

#### **The importance of good ventilation**

MVS stands for Mechanical Ventilation System

The system can operate fully automatically, and it saves energy and money. As an additional benefit, it is good for

your health! You need approximately 25 m<sup>3</sup> of fresh air per hour, so good ventilation is simply a must. Without good ventilation, a home becomes damp and musty. This attracts mould and house dust mites. Poor ventilation means damp patches in walls and ceilings are a certainty, as well as health problems such as headaches, allergies and respiratory irritations.

We are, of course, outlining an extreme situation, but there are excellent reasons why good ventilation systems are compulsory in new houses. You and your home need fresh air! Opening a window for a bit is not enough. The moment you close the window, the fresh air disappears.

Houses are increasingly well insulated. However you look at it, this is a positive development, because it saves a lot of energy and money. Unfortunately, good insulation does reduce the refreshment of air in your home, because in an airtight house air cannot pass from the outside to the inside, or vice versa. And that is not a good development at all, because you and your home need fresh air. There is a lot of moisture in a house, and its occupants also produce moisture. Without proper ventilation, humidity and stale air remain contained, with bacteria and

fungi as a result. Moreover, it is also a fact that heating this humid air consumes more energy.

**It is, therefore, important to ventilate 24 hours per day.**

If you have any questions, please contact your supplier. The contact details can be found in the installation and measurement report.

## 2. How does the ventilation system work?

Your home is equipped with a mechanical extraction ventilation system from Orcon BV. This system consists of a centrally-located fan unit with a highly energy-efficient EC motor, ductwork with extraction valves in the kitchen, bathroom, lavatory and possibly the storage area, all combined with a remote control and/or CO<sub>2</sub> room sensor(s). The device can be fitted with a MOTORLESS cooker hood. This discharges cooking odours and humidity to the exterior via the central device.



**It is not permitted to connect a cooker hood with motor or clothes dryer to the system.**

Depending on the size of the home, the installer can set the system to deliver the correct volume of air. The ventilation system has four speed positions; absent, low, medium and high. These different setting options ensure that cooking odours and humidity are efficiently removed from the home. The MVS-15RH system was designed to operate 24 hours per day. The device is equipped with a highly energy-efficient EC motor to keep energy consumption to a minimum.

## 3. Operating the system:

For the device to function properly, the following conditions must be respected.

- Ensure that sufficient air can be fed through transom windows or intake grilles.
- If your home is fitted with non-closable air inlet openings, do not seal them or cover them with tape.

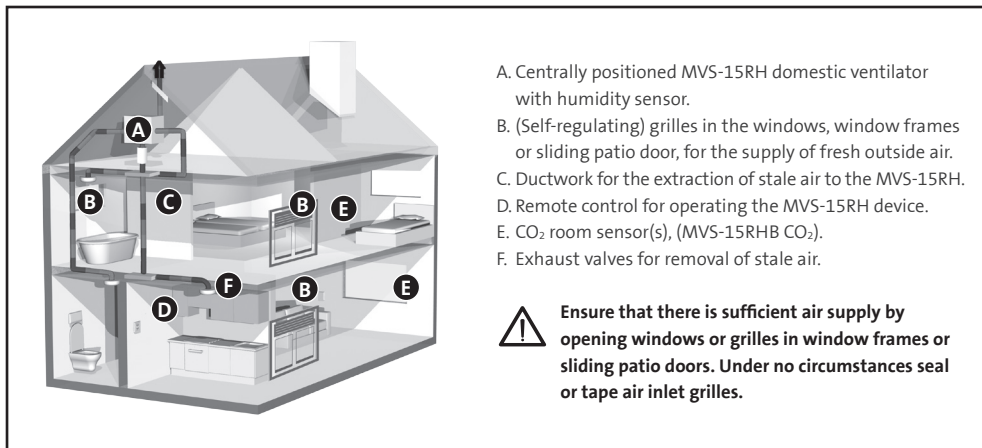






Fig. 1 Overview ventilation system MVS-15RHB (CO<sub>2</sub>)

The domestic ventilator is operated by a wireless remote control; in automatic mode, the ventilation is controlled on the basis of humidity levels in the home and increases in CO<sub>2</sub> levels in the living areas concerned (only with opti-

onal CO<sub>2</sub> version). The system can be expanded at a later date with additional remote controls / CO<sub>2</sub> room sensors. If multiple remotes/sensors are used in your home, the highest ventilation position is always given priority.

## Remote control operation

Your device is controlled by 6 buttons. The table below explains the functions of these buttons.

15RF Remote control user interface explanation		
Button	Control	Function
	1x short	Absence mode
1	1x short	Position 1 (low position)
2	1x short	Position 2 (medium position)
3	1x short	Position 3 (high position)
	1x short	Position 3 (timer mode) temporary 15 minutes
	2x short	Position 3 (timer mode) temporary 30 minutes
	3x short	Position 3 (timer mode) temporary 60 minutes
auto	1x short	Automatic mode

Besides the 4 positions, this control also has intelligent humidity and CO<sub>2</sub> detection (with optional CO<sub>2</sub> room sensor). This is activated when automatic mode is selected.

### Automatic mode (auto)

In auto mode, the device operates in accordance with signals from the integrated humidity sensor and/or the optional RF CO<sub>2</sub> room sensor(s).

### Timer mode

In the timer mode, the device operates in the high position for the required time, after which the device returns to the last selected position. The timer can be cancelled by selecting another button.

### Absence mode

In the absence mode, the device runs in an extra energy-efficient low position and does not respond to signals from sensors.

### Humidity detection

The fan continuously measures the humidity in the return air, and compares it with the stored measurements for the previous 3 minutes. If a difference of more than 5% or 10%

(adjustable) is measured, the fan will automatically start to run faster in position 2 or 3 (adjustable). If the device detects a decrease in humidity levels, than the afterrun is activated for 15 or 30 minutes (adjustable). After this time, the MVS-15RH returns to automatic mode.

### **CO<sub>2</sub> detection (devices with CO<sub>2</sub> room sensor only)**

#### **How does it work?**

Depending on air quality (measured CO<sub>2</sub> levels in the room), the CO<sub>2</sub> room sensor sends radio signals to the MVS-15RH to extract more or less stale air from the kitchen, bathroom and lavatory. As a result, a greater or lesser volume of fresh air is sucked in through the (self-regulating) grilles.

#### **CO<sub>2</sub> room sensor, indication and control**

If the control button is pressed once, the LEDs show the status. After 30 seconds, the LEDs will automatically turn off. This prevents disturbance in a dark living area. If, after being touched once, the control button is touched again, the sensor will switch to a different mode. The switching of mode is indicated by the green or blue LED on the top

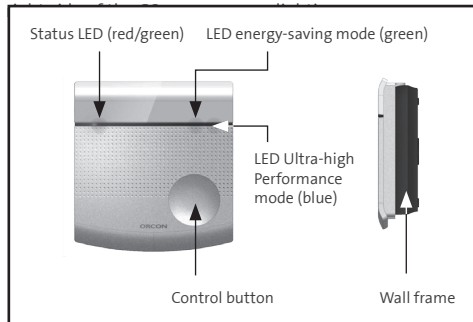


Fig. 2 Location LED and control button on CO<sub>2</sub> room sensor

There are 2 options, namely:

- Energy-saving mode.
- Ultra-high performance mode

#### **Energy-saving mode.**

When the CO<sub>2</sub> room sensor is in this mode, the fan will



operate in accordance with standard requirements. This saves energy costs, since the device only ventilates when it is absolutely necessary.

### **Ultra-high performance mode**

When the CO<sub>2</sub> room sensor is in this mode, the CO<sub>2</sub> room sensor will keep the air quality at a high level. It results in increased ventilation. Fresh outside air is drawn inside.

The CO<sub>2</sub> room sensor(s) communicate wirelessly with the MVS-15RH ventilation cabinet. When the remote control is set to automatic mode, the MVS-15RH reacts to the highest level of CO<sub>2</sub> (air quality in a living area) as measured by the CO<sub>2</sub> room sensors. This means fully automatic control and an exceptional indoor climate at all times for the occupants. You can always select a different speed with the remote control. This then cancels automatic mode. In the event of a power interruption, the fan starts in automatic mode.

## **4. Maintenance**

### **System maintenance**

The home owner must ensure that the fan is checked once every 2 years by the installer, and cleaned if necessary.

### **Cleaning extraction valves**

Grasp the valve at the outer edge and remove it from the wall or ceiling. The valves can be cleaned with soapy water. Rinse the valve well afterwards, and wipe dry. Replace the valve in the wall or ceiling.



**Be careful not to change the settings of the valves, and ensure that they are returned to their original places. If they are swapped around, the system will no longer operate at its best!**

### **Cleaning ventilation supply grilles**

Periodically remove the dirt in and on the grilles above the windows. One method is to use a vacuum cleaner.

### **Maintenance of remote control**

Regularly remove dust and dirt from the remote control with a dry cloth, never with a wet one!

### Battery replacement

If the LED indication on the remote control flashes orange once, or does not react when you operate one of the control buttons, the cause is probably a low battery. You do not need to contact your installer to replace this battery. It is a task you can easily do yourself. The battery can be ordered from [www.orcon.nl](http://www.orcon.nl). To replace the battery, click in the push button on the wall frame (figure 3) of the remote control in order to remove the upper part of the wall frame of the remote control. Remove the old battery from the remote control. Insert the new battery with the positive side facing you (see figure 4). Replace the protective cover and click the upper side shut on the wall frame with a hinge movement.



Please note: Do not throw batteries away with household waste, instead take them to a collection point for domestic chemical waste.

### Maintenance CO<sub>2</sub> room sensor

A CO<sub>2</sub> room sensor needs no maintenance during its service life. However, operation can be affected by dirt in the air vents. To prevent this, regularly remove dust from the housing with a dry cloth.

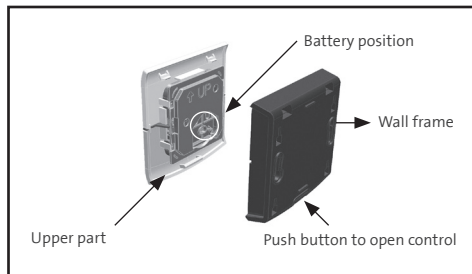


Fig. 3 Exploded view RF remote control

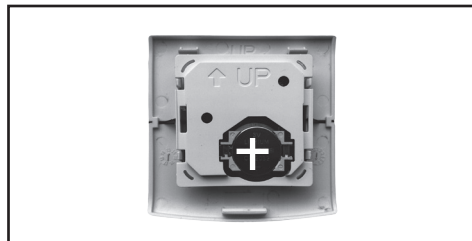


Fig. 4 - Battery in remote control

## 5. Guarantee

Orcon BV guarantees the fan for two years as standard. The guarantee period starts on the production date. The guarantee is void if:

- The system is not installed in accordance with applicable regulations;
- The defects have been caused by incorrect connection, improper use or dirt in the fan or accessories;
- Changes have been made to the wiring;
- Repairs have been carried out by third parties.

On-site disassembly and assembly charges are not covered by the guarantee. If a defect occurs within the guarantee period, it must be reported to the installer. Orcon BV reserves the right to change the structure and/or configuration of its products at any time without being obliged to change previously supplied products. The data in this manual concerns the most recent information. The MVS-15 fan has an extended guarantee, provided the form on the website is filled in [www.orcongarantie.com](http://www.orcongarantie.com)



### Disassembly and removal

At the end of the service life of the MVS-15RH, the user is responsible for the safe disassembly of the domestic ventilator and for the disposal of the components in accordance with local regulations.

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