



# READ AND SAVE THESE INSTRUCTIONS

This is a UL certified product and meets UL required safety. Read these instructions carefully and look at the equipment to become familiar with it before trying to install, operate, service or maintain it.

## Preface

This manual contains essential information for the correct and safe assembly and commissioning of the Fresh-r Compac. Before starting assembly, please read this manual carefully. The manufacturer Vaventis B.V. is not liable for the installation of the Fresh-r or incorrect operation of the Fresh-r as a result of an incorrect installation. The Fresh-r complies with all applicable UL and CE directives. If you have any questions, please contact your supplier.

## Content

- 1. Symbols..... 3
- 2. Safety regulations ..... 3
- 3. Main components..... 3
- 4. Tools needed for the installation ..... 3
- 5. Installation Fresh-r..... 4
- 6. Preparation of electricity..... 4
- 7. Fresh-r unit preparation ..... 5
- 8. Mounting the Fresh-r unit ..... 6
- 9. Fresh-r connection to electricity ..... 6
- 10. Mounting the outside grill ..... 7
- 11. Commisioning..... 7
- 12. Connecting to Wi-Fi..... 8
- 13. Installation checklist ..... 9
- 14. Manual operation ..... 9
- 15. Ultra-fine dust filter ..... 11
- 16. Maintenance..... 11
- 17. Technical specifications ..... 12
- 18. Declaration of UL conformity ..... 14
- 19. Declaration of CE conformity..... 18
- 20. Drawings and dimensions..... 19

## 1. Symbols

Symbols are used in this manual for additional explanation.



### **Commentary**

The comment symbol indicates additional information that is useful when performing a task.



### **Caution**

The 'Caution' symbol is used for procedures which, if not followed, may cause damage to the equipment or the entire machine.



### **Warning**

The warning symbol is used for certain procedures or actions which, if not performed correctly, may result in an injury and/or property damage.



### **Electrical tension**

This safety symbol indicates a situation or action that poses a safety risk.

## 2. Safety regulations

- The Fresh-r requires a fused 110V mains supply with proper grounding.
- Connecting the Fresh-r to the mains must be done by a licensed electrician.
- Risk of electric shock or electrocution. Switch off the mains electricity supply in the central distribution box before preparing the electricity.
- The person responsible for installing the Fresh-r should be familiar with local building regulations.

## 3. Main components

- Fresh-r Compac On-the-wall unit
- 4 screws including 4 plugs for mounting the Fresh-r unit
- 2 pieces of pipes
- Insulating sleeves for the pipes
- Fresh-r Compac On-the-wall drilling template
- Optional: 1 grille including mounting plate, 4 screws and 4 plugs, or
- Optional: 2 grills including 8 screws and 8 plugs

## 4. Tools needed for the installation

Before starting the installation, make sure that the following preparations have been made and tools are available:

- Equipment to drill 2 round holes ( $\varnothing$  5 inch) in the wall, typically an optionally water-cooled diamond core drill
- For the fixing screws of the Fresh-r, use 0.3 inch drill bits for a stone wall. Wood should be pre-drilled with a 0.1 inch drill bit. In the case of thin sheet material such as plasterboard, wooden beams with sufficient load-bearing capacity must be placed behind these sheets.

- For the installation of the outer grill(s), use 0.25 inch drill bits for a stone wall. Wood should be pre-drilled with a 0.1 inch drill bit.
- Torx screwdriver
- Spirit level
- EPP glue, e.g. Polymax mounting kit
- Expanding Pur foam
- Hacksaw

## 5. Installation Fresh-r

- Determine the correct location. For efficient ventilation, place the Fresh-r centrally in the room, ideally 47 inch from the floor, but at least 4 inch from the floor and ceiling. Please note that you can still remove the door and access the controls. Do not place the Fresh-r behind a curtain or directly above a chair or sofa.



### **Warning**

Make sure that there are no cables or pipes in the wall in the chosen location.

- The Fresh-r may only be mounted vertically and not horizontally. Use the drilling template to mark the two holes for the supply and exhaust duct, including the centers of both holes, and for the four mounting holes.
- Drill both holes from the inside through the inner wall, cavity and outer wall with a drill diameter of 5 inch.
- Drill the four mounting holes. For a stone wall, drill holes with a diameter of 0.3 inch. Wood should be pre-drilled with a 0.1 inch drill bit. In the case of thin sheet material such as plasterboard, wooden beams with sufficient load-bearing capacity must be placed behind these sheets.

## 6. Preparation of electricity



### **Electrical tension**

A licensed electrician must connect the electricity. Fresh-r is not responsible for incorrect connection. Risk of electric shock or electrocution. Switch off the mains voltage in the meter cupboard before preparing the connection.

- Make sure that the electricity is prepared before you mount the Fresh-r on the wall. There must be a grounded power point within about one meter of the top of the Fresh-r. Preferably, you connect the power cord permanently to a fixed connection. If the Fresh-r is equipped with an external power cord, the cord can be shortened as needed. The cord is supplied without a plug. Only connect the Fresh-r to the electricity after you have mounted the Fresh-r on the wall.

## 7. Fresh-r unit preparation

- Remove the door from the Fresh-r by pulling the bottom end a few centimeters towards you and then sliding it upwards.
- Cut both pipes to size. The required length is the entire wall thickness (inner wall + cavity + outer wall) + 1.2 inch (0.4 inch on the outside + 0.8 inch insertion into the Fresh-r). For example: with a wall thickness of 12 inch, the correct length for the pipes is  $12 + 1.2 = 13.2$  inch



### Commentary

Use a piece of tape or two sheets of paper taped together to mark the pipes and make a perpendicular cut.



### Commentary

The 0.4 inch extra length is for protruding on the outside of the wall. This ensures that condensation water is drained off the outer grille via the drip tray and does not run away via the outer wall.

- Deburr and sand the ends of the pipes.
- Push the pipes into the two connection points at the rear of the Fresh-r. The pipes are correctly placed when they are pushed 0.8 inch into the Fresh-r until they can go no further.
- Apply the insulation sleeve completely all around to both pipes. Do this to the point where the tube exits the Fresh-r. See image below.
- Seal the connection between the insulation tube and the rear wall of the Fresh-r completely around with sealant, for example with Bison Kit Polymax or with silicone sealant. See image below.











11. Now wait for the text "Your configuration was applied successfully".
12. The Fresh-r is now connected. After approximately 60 minutes, the data from your Fresh-r will be visible on the web app. The data can only be viewed by yourself or the manufacturer.
13. To view the data, go to [www.fresh-r.me](http://www.fresh-r.me). Log in with the username and password provided by Fresh-r. Don't have a username and password yet? Request it at your supplier.
14. After the connection is established, you will no longer find Fresh-R AP..... or Vaventis AP ..... in the list of Wi-Fi connections on your laptop/tablet/PC.

### 13. Installation checklist

Inspection items	Completed		
	Yes	No	n/a
Seal the connection between the insulation sleeve and the rear wall of the Fresh-r with sealant.			
Sealing the space between the pipes and wall holes with polyurethane foam on the outside wall.			
To the outside, the lower pipe has an angle of inclination of 2 degrees downwards.			
Where the lower pipe protrudes on the outside, the lower half is sealed with sealant between the pipe and the wall.			
After switching on, the 3 lights on the control panel at the top left on the outside are lit.			
Blows air out from the bottom of the door.			
CO2 indicator led lights up green. If not, check if it lights up green after half an hour.			
Connect Fresh-r to Wi-Fi.			
Secure the door with the fixing screw.			

### 14. Manual operation

Fresh-r ensures healthy indoor air, comfort and minimal energy loss:

- automatically enough fresh air
- the sensors measure CO2 and humidity
- the fans will run faster when necessary so that the air quality remains good
- the heat exchanger ensures energy savings and comfort:
  - in winter, the cold outside air enters preheated
  - on hot summer days, the warm outside air enters cooled
- if desired, insight into air quality and energy savings via web app

Automatically demand-driven

- the Fresh-r is set to automatic by default and works completely independently
- humidity and carbon dioxide are measured continuously and determine the ventilation volume
- the air quality is indicated by a colored face and a colored LED
- the green lights show the amount of ventilation

Operate manually (temporarily)

- the ventilation speed can be manually increased or decreased. First press button A, after which the speed can be adjusted with the buttons with the large and small fan icon.

- by pressing button A again, the Fresh-r returns to automatic mode. After an hour and a half, the Fresh-r automatically returns to automatic mode.

#### On/Off switch

- This switch should only be used before cleaning or maintenance to switch off the Fresh-r.

#### Ventilation speed

- in the automatic mode, the Fresh-r regulates the required ventilation speed itself, which is limited to 44 CFM. In this position the lower indicator light equals 12 CFM and the upper indicator light equals 44 CFM.
- in manual mode the maximum ventilation speed is 53 CFM. In this position the lower indicator light equals 12 CFM and the upper indicator light equals 53 CFM.
- if desired, you can have the maximum ventilation speed increased from 44 CFM to 53 CFM for the automatic mode. Your Fresh-r must be connected to Wi-Fi for this. To request this adjustment, please contact Fresh-r.

## 15. Ultra-fine dust filter

The Fresh-r can optionally be equipped with an ultra-fine dust filter cartridge.

To install the ultra-fine dust filter, do the following

- if present at the bottom of the door, remove the fixing screw using a hex key or hex screwdriver size 4 and remove the door
- set the main switch to the OFF position. You'll find the switch in the top right corner
- place the filter cartridge in the metal filter holder
- slide the filter holder including filter cartridge into the bottom of the Fresh-r
- secure the filter holder using the black knob with metal lip
- switch the Fresh-r on again by setting the main switch to the ON position
- replace the door and fixing screw

The Ecopleat G filter cartridge from manufacturer Camfil is approved for this device. The Ecopleat G filter cartridge has a UL Classified rating.

With average ventilation use, the filter cartridge should be replaced with a new one every six months.

## 16. Maintenance

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**Before performing maintenance, disconnect the device from the power source using the power switch. The on/off switch is located inside the Fresh-r.**

- For optimum operation and a long service life, the heat exchanger should be cleaned every six months. See the maintenance manual for this.
- For further technical details and maintenance see [www.fresh-r.eu](http://www.fresh-r.eu).
- If you have any questions about operation and maintenance, please contact your supplier. For the best support, your Fresh-r should be connected to Wi-Fi. Always include the serial number of the Fresh-r with contact. This can be found on the silver sticker on the inside of the Fresh-r and starts with E232.

Congratulations on the installation of your Fresh-r Compac, the installation is complete and the Fresh-r is ready to use. We wish you a very good time with the Fresh-r and enjoy the clean air, the comfortable indoor climate and the energy savings.



**Fresh-r**

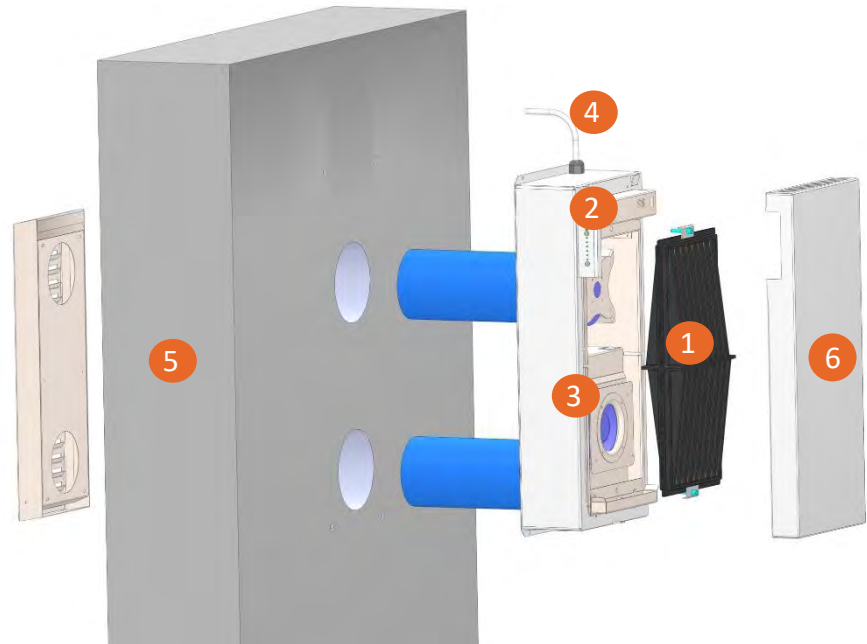
Smart indoor  
air care

# Fresh-r Compac On-the-Wall Specifications and Data


Smart measurement and control technology that reuses heat in the winter and coolness in the summer.

Keeps it comfortable indoors and the air healthy, without losing energy.

Demand-driven and balanced HR ventilation without ducts.

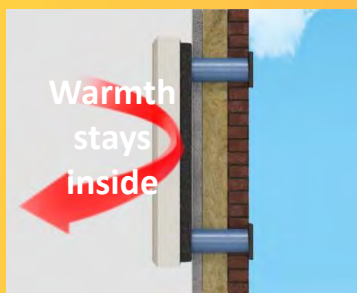
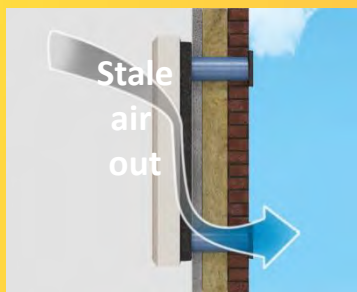


## Key Features

- 1** The heat exchanger is made of copper, that conducts heat 1000 times better than polyethylene, of which other heat exchangers are made. Therefore temperature is exchanged from the outgoing air to the incoming air in a much shorter air path, which has multiple advantages:
    1. Keeps the unit compact;
    2. Low pressure drop, resulting in low fan energy usage and very low noise levels;
    3. Below freezing point efficiency;
    4. Thermal efficiency of 90% at 35 CFM.
  - 2** Air quality is monitored by CO<sub>2</sub> sensor, humidity sensor and temperature sensors. Ultra fine dust sensors are optional.
  - 3** Ventilators refresh the indoor air, with a capacity of up to 53 CFM.
  - 4** Runs on 110 Volt, with average use below 7 Watt, the same as one led lamp.
  - 5** Fresh-r can be installed both on and in the outside wall. For on the wall installation, only two holes of 5 inch need to be core drilled.
  - 6** Easy to maintain with low maintenance costs. All parts are easily accessible through a sound-insulated door. The heat-exchanger needs to be rinsed with water every six months.
  - 7** MERV 13-14 fine dust filter is optional.
-  2 year warranty when not connected to Wi-Fi or LTE.  
3 year warranty when connected to Wi-Fi or LTE.  
Extended warranty upon request.



World champion  
in ventilation



Fresh-r is like a breathing window

## Technical Data

Heat exchanger	Copper wire
HE efficiency	90 % *
ErP label	A+
Controls	CO <sub>2</sub> /RH /Temp /PM
Balanced	Yes
Mounting	In the wall or On the wall
Outside duct diameter	4 inch duct, 5 inch incl. insulation sleeve
Extract duct connection	Optional
Condensate discharge	Integrated in exhaust
Electricity supply	110V/1ph/60Hz
Max power consumption	25 Watt
Average power consumption	7 Watt
Wi-Fi inside / LTE inside	Yes / Optional
Filter class	Standard MERV 9-10 Optional MERV 13-14
Dimensions (LxWxD in inches)	
- On the wall	28.2 x 11.2 x 7.6
- In the wall body	25.1 x 11.2 x 5.3
- In the wall door	28.5 x 12.8 x 2.3

\* Test at norm volume of 35 CFM and 87 % at 47 CFM performed by BRE UK in accordance with the requirements of EN 13141-7/8 and EN 308:1997

## Air flow control

The Fresh-r saves 65% (avg.) on the overall ventilation flow by only ventilating when needed. The air flow rate is automatically adjusted. CO<sub>2</sub>, RH and temperature sensors with its smart control are always included in the Fresh-r and are situated in outgoing air stream. The automatic mode can manually be overruled by increasing / decreasing fan speed. The user interface indicates the air quality level in 3 steps with icons for good, medium and poor.

## Air balance control

Two backward curved fans are continuously balanced using smart controls combined with 4 temperature sensors. This worldwide patented system enables very direct balance control, also with strong winds.

## Flow & electricity

15 CFM	5.3 Watt
31 CFM	11.7 Watt
45 CFM	17.6 Watt

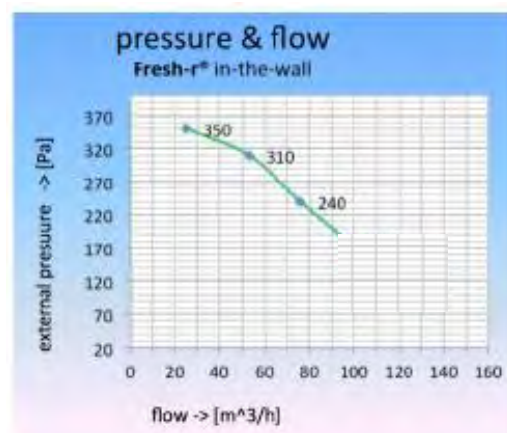
Testing by BRE UK, SAP Appendix F. Certified Passive House component.

## Flow & sound

20 CFM	25 dB(A)
38 CFM	30 dB(A)
47 CFM	35 dB(A)

NEN-EN-ISO 3741 tested by Cauberg-Huygen

## Pressure Flow Graph



## Minimised cold bridge

The cold side of the Fresh-r is completely separated from the warm side.

## Modular Design

The Fresh-r is constructed of independent modules that can be easily connected, disconnected, or interchanged. Each module typically performs a particular task. This design approach offers benefits like ease of maintenance and cost-effectiveness.

**Fresh-r, Vaventis BV reserve the right, in the interests of continuous development, to alter specifications without prior notice. All orders are accepted subject to our conditions of sale which are available on request.**



# Fresh-r

Smart indoor  
air care

[www.fresh-r.com](http://www.fresh-r.com)

Fresh-r is a brand name of  
Vaventis BV



May 2024

# CERTIFICATE OF COMPLIANCE

**Certificate Number** UL-US-2318988-1  
**Report Reference** E529210-20230531  
**Date** 4-Oct-2023

**Issued to:** Vaventis BV  
Weleweg 417  
Enschede, Overijssel 7548 PK  
Netherlands

**This is to certify that representative samples of** LZUU - Heat-recovery Ventilators, Nonducted  
See Addendum Page for Product Designation(s).

Have been evaluated by UL in accordance with the Standard(s) indicated on this Certificate.


**Standard(s) for Safety:** UL 1815, 5th Ed., Revision Date: 2018-07-19

**Additional Information:** See the UL Online Certifications Directory at <https://iq.ulprospector.com> for additional information

This Certificate of Compliance indicates that representative samples of the product described in the certification report have met the requirements for UL certification. It does not provide authorization to apply the UL Mark. Only the Authorization Page that references the Follow-Up Services Procedure for ongoing surveillance provides authorization to apply the UL Mark.

Only those products bearing the UL Mark should be considered as being UL Certified and covered under UL's Follow-Up Services.

Look for the UL Certification Mark on the product.

  
Deborah Jennings-Conner, VP Regulatory Services

UL LLC

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# CERTIFICATE OF COMPLIANCE

**Certificate Number** UL-US-2318988-1  
**Report Reference** E529210-20230531  
**Date** 4-Oct-2023

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

<b>Model</b>	<b>Category Description</b>
<b>Fresh-r-Series</b> , In-the-wall Everywhere	Heat-Recovery Ventilators
In-the-wall Everywhere Compac	Heat-Recovery Ventilators
<b>Fresh-r-Series</b> , In-the-wall Standard	Heat-Recovery Ventilators
In-the-wall Standard Compac	Heat-Recovery Ventilators
<b>Fresh-r-Series</b> , On-the-wall Everywhere	Heat-Recovery Ventilators
On-the-wall Everywhere Compac	Heat-Recovery Ventilators
<b>Fresh-r-Series</b> , On-the-wall Standard	Heat-Recovery Ventilators
On-the-wall Standard Compac	Heat-Recovery Ventilators

  
Deborah Jennings-Conner, VP Regulatory Services



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# CERTIFICATE OF COMPLIANCE

**Certificate Number** UL-CA-2316555-1  
**Report Reference** E529210-20230531  
**Date** 4-Oct-2023

**Issued to:** Vaventis BV  
Weleweg 417  
Enschede, Overijssel 7548 PK  
Netherlands

**This is to certify that representative samples of** LZUU7 - Heat-recovery Ventilators, Nonducted Certified for Canada  
See Addendum Page for Product Designation(s).

Have been evaluated by UL in accordance with the Standard(s) indicated on this Certificate.


**Standard(s) for Safety:** CSA C22.2 NO. 113-18 - 11 th Ed. - Issue Date: 2018-10-01

**Additional Information:** See the UL Online Certifications Directory at <https://iq.ulprospector.com> for additional information

This Certificate of Compliance indicates that representative samples of the product described in the certification report have met the requirements for UL certification. It does not provide authorization to apply the UL Mark. Only the Authorization Page that references the Follow-Up Services Procedure for ongoing surveillance provides authorization to apply the UL Mark.

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# CERTIFICATE OF COMPLIANCE

**Certificate Number** UL-CA-2316555-1  
**Report Reference** E529210-20230531  
**Date** 4-Oct-2023

This is to certify that representative samples of the product as specified on this certificate were tested according to the current UL requirements

<b>Model</b>	<b>Category Description</b>
<b>Fresh-r-Series</b> , In-the-wall Everywhere	Heat-Recovery Ventilators
In-the-wall Everywhere Compac	Heat-Recovery Ventilators
<b>Fresh-r-Series</b> , In-the-wall Standard	Heat-Recovery Ventilators
In-the-wall Standard Compac	Heat-Recovery Ventilators
<b>Fresh-r-Series</b> , On-the-wall Everywhere	Heat-Recovery Ventilators
On-the-wall Everywhere Compac	Heat-Recovery Ventilators
<b>Fresh-r-Series</b> , On-the-wall Standard	Heat-Recovery Ventilators
On-the-wall Standard Compac	Heat-Recovery Ventilators

  
Deborah Jennings-Conner, VP Regulatory Services



UL LLC

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## 19. Declaration of CE conformity

As required by EC Directive

*We*

The manufacturer: Vaventis B.V.  
Address: Weleweg 417  
7548 PK Enschede  
The Netherlands

*Declare under our sole responsibility that the following product*

Equipment: Air handling unit with heat recovery  
Brand name: Fresh-r  
Model/type: Compac On-the-wall

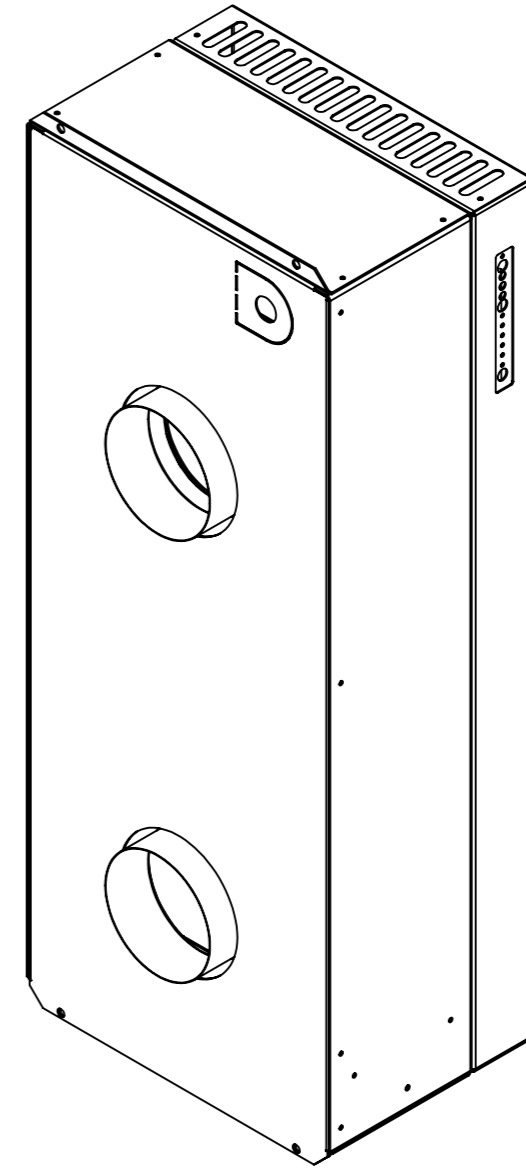
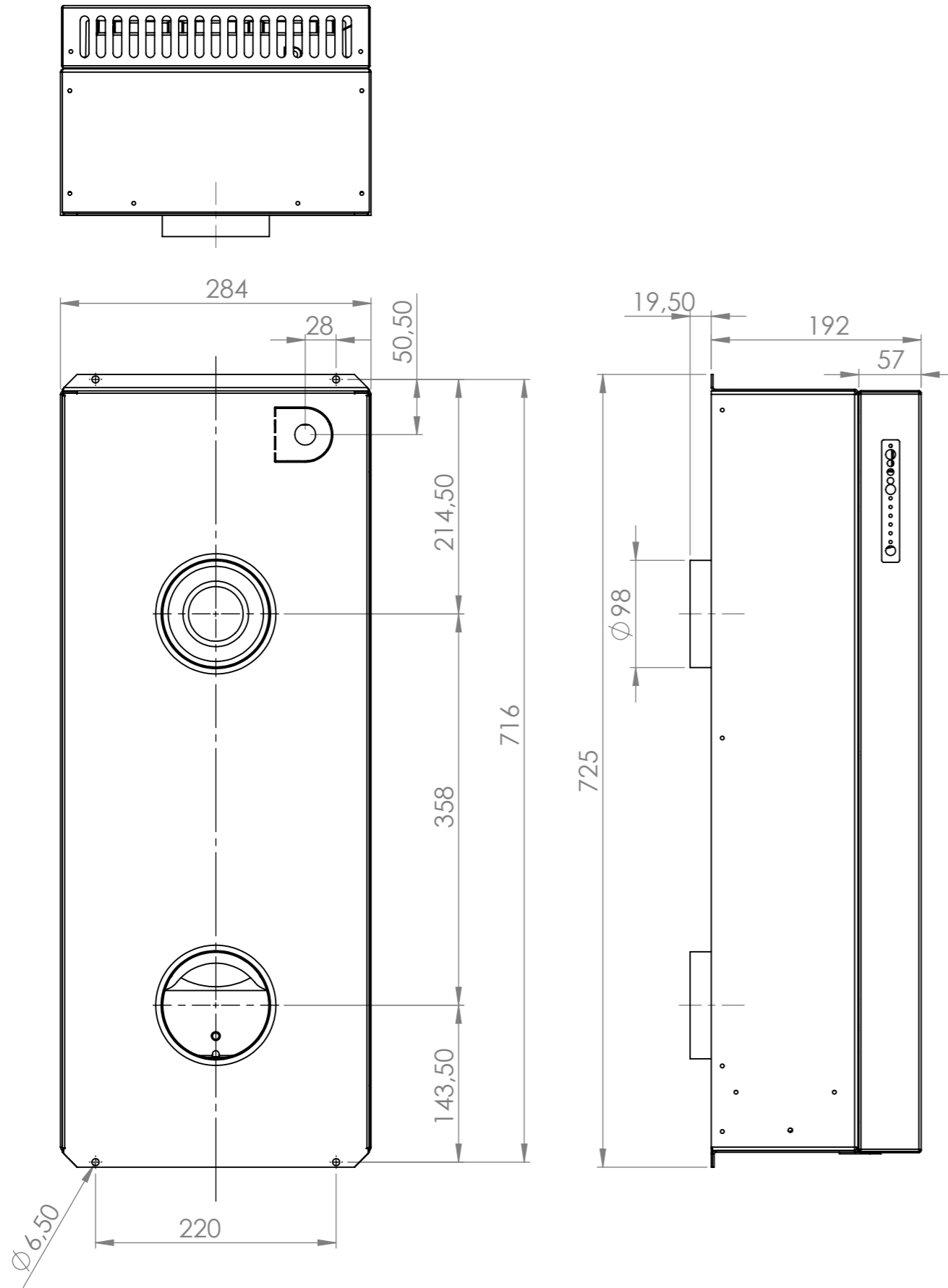
*Is in conformity with the following Directives*

2006/95/EC Low Voltage (LVD)

*The product bears the CE label*

A handwritten signature in black ink, followed by the CE mark (the letters 'C' and 'E' in a stylized, bold font).

Woen van Andel (Managing Director)  
Enschede, August 1st, 2021



UNLESS OTHERWISE SPECIFIED: DIMENSIONS ARE IN MILLIMETERS SURFACE FINISH: TOLERANCES: LINEAR: ANGULAR:				FINISH:		DEBUR AND BREAK SHARP EDGES		DO NOT SCALE DRAWING		REVISION	
DRAWN				NAME		SIGNATURE		DATE		TITLE:	
CHK'D				GGK				01-12-23		Compac OTW FFF	
APPV'D										DWG NO.	
MFG										A3	
Q.A								MATERIAL:		SCALE:	
								WEIGHT:		SHEET 1 OF 1	