



HIGH HEAT RETENTION STORAGE HEATER

INSTALLATION MANUAL AND INSTRUCTIONS FOR USE

Smart charging
WiFi control
TFT display



ThermaStore **HHR**

By Electrorad



GENERAL WARNINGS

INTRODUCTION

Before proceeding with the installation of the product, you must read all the instructions and recommendations detailed in this manual very carefully, as the manufacturer will not be held responsible for any failure or damage caused by non-compliance. Once the battery has been installed, keep this manual in a safe place so that it can be consulted at any time and in case of doubt.

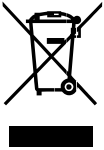
VERY IMPORTANT!

- **Read the installation manual before mounting the equipment.**
- **Read the manual carefully to operate the equipment.**
- **Observe the warnings carefully.**
- **Install the equipment in a place where air can circulate.**
- **The installation of the device must be carried out by qualified personnel.**
- **Remove the battery protector on the electronics before use.**



After unpacking the appliance, the remains of the packaging must be removed in a responsible manner, as all parts of the packaging are intended for recycling. If, after unpacking, you detect any apparent damage to the appliance, you should consult your supplier before proceeding with the installation and electrical connection within a period of less than 24 hours. Assembly and installation must be carried out in accordance with the instructions given in this manual.

RECYCLING



Warnings for the correct disposal of the product according to European Directive 2012/19/EU. At the end of its useful life, the product must not be disposed of with municipal waste. It can be handed over to specific separate collection centres set up by local authorities or to distributors who provide this service. Disposing of a household appliance separately means avoiding possible negative consequences for the environment and health resulting from inappropriate disposal and allows the materials of which it is composed to be recycled, thus obtaining significant savings in energy and resources. To underline the obligation to collaborate with selective collection, the product is marked with a warning not to use traditional containers for its disposal. For further information, please contact your local authority or the shop where you purchased the product for disposal..

IMPORTANT SAFETY NOTES

The installation of the heating device must be chosen correctly and must be carried out according to the rules and in compliance with the standard.

The device must be placed away from flammable objects and children must not be left unattended near the heater.

This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruc-

GENERAL WARNINGS

tion concerning use of the appliance in a safe way and understand the hazards involved.

Children from 3 years of age and under 8 years of age must not plug in, adjust, clean or service the appliance.

Children under 3 years of age should be kept out of reach of the appliance unless continuously supervised.

Children from 3 years of age and under 8 years of age should only switch the appliance on/off when it has been placed and installed in its normal intended operating position and when they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved.

Children should be supervised to ensure that they do not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

Caution: Some parts of this product may become very hot and cause burns. Particular care should be taken when children and vulnerable persons are present.

Under no circumstances should the equipment be covered by clothing, containers or any other object, nor should it be placed under a cupboard or any other obstacle that impedes the circulation of hot air.

WARNING:

To avoid overheating, DO NOT COVER the heating appliance heating appliance.



The heating appliance must not be placed immediately below a socket outlet.

Avoid the use of extension cords as they may cause overheating and a risk of fire.

This appliance is intended to be permanently connected to a fixed ins-

GENERAL WARNINGS

tallation. The power supply circuit of the device must be fitted with an omnipolar circuit breaker with a contact separation of at least 3 mm.

The connection cables of the battery itself must not come into contact with the surface of the device.

The device must not be installed in places where there is a risk of splashing water, such as bathtubs, washbasins, etc. The appliance must be installed in such a way that the switches, thermostat and socket cannot be touched directly or indirectly by a person in the bath or shower (respect the prohibition distances according to REBT).

If the power supply cable is damaged, it can only be replaced by the Technical Assistance Service in order to avoid risks.

If, during installation and assembly of the appliance, a part of the thermal insulation or resistance shows damage or deterioration that impairs the safety of the appliance, it must be replaced with an identical part.

Before carrying out any operation inside the appliance, do not forget to disconnect the power supply.

Contact with the core temperature probe may cause an electrical hazard. The probe must not be handled, moved or touched.

Never open the appliance when it is charged.

The presence in the environment of tobacco smoke or suspended particles, atmospheric pollution, etc., can darken the wall surfaces near the accumulator.

Always observe the safety precautions when mounting the battery on the wall.

The electrical installation should be fitted with a fused switch or circuit breaker. It is also advisable to have a residual current protection against earth faults. The voltage and frequency values of the mains supply must

GENERAL WARNINGS

be the same as those indicated on the rating plate.

It is possible that the radiator may cause slight noises at the beginning of its operation; this is normal due to expansion and contraction. After a few days, this noise disappears.

After the unit has been re-installed in another location, it will be put into operation for the first charging period under the control of the installer.

Due to the weight of the storage tank with the bricks, it must be ensured that both the wall and the supporting floor are sufficiently solid, in case of doubt consult a building engineer.

To maintain stability, it is essential that the heating appliance is placed on a level surface and care should be taken to avoid uneven surfaces, such as those which may result in the heating appliance being placed on the floor.

ELECTRICAL CONNECTION

- For the electrical connection of the device, means of disconnection to the fixed installation must be incorporated in accordance with the installation regulations in force in the country in which it is to be installed.
- For safety reasons, before making the connection, check that there is no voltage in the mains.
- Before connecting the appliance to the mains, make sure that the supply voltage is as indicated on the rating plate 230V.
- The appliance must be connected to the protective conductor of the fixed installation.
- Any incident resulting from non-compliance with these instructions will invalidate the warranty.
- When connecting the appliance, the wiring diagram must be strictly observed, paying special attention to the colours of the wires.

CLEANING AND WARRANTY

CLEANING

Before cleaning, switch off the product and allow it to cool down. If there is dirt on the outside, it can be removed with a dry cloth. Do not use solvents or abrasive products. It is important that the ventilation grille is always free of dust. Before using it again after a long period of time when it has been switched off, it is necessary to vacuum it to remove any dust that may have been stored inside.

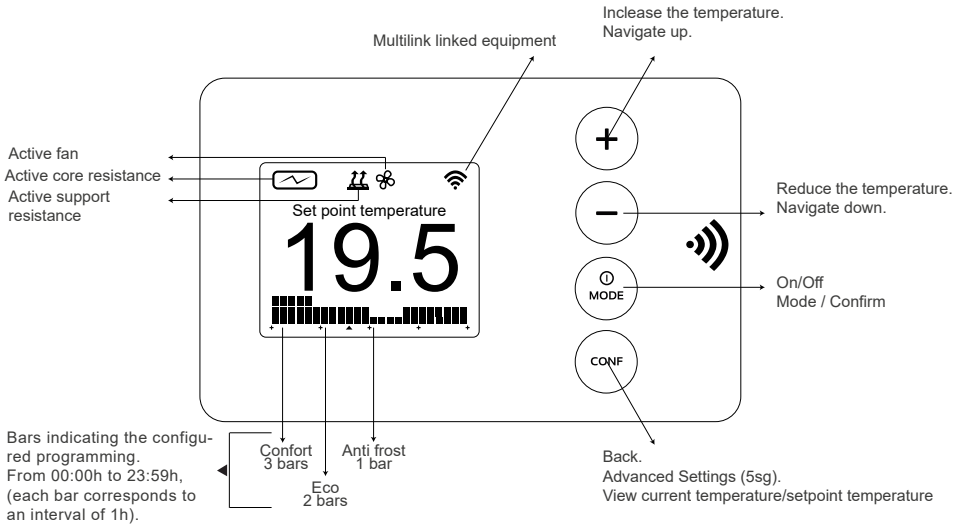
WARRANTY

The company offers a technical guarantee in accordance with the legislation in force in each country. For this guarantee to be valid, the original invoice, delivery note or purchase receipt must be presented.

Prerequisites:

- The warranty only covers manufacturing defects or any problems caused by such defects.
- Any problems resulting from insufficient installation or power (not enough power to heat the room, incorrect installation, etc.) are not covered by this warranty.
- This radiator is for domestic use, installation in any other environment is not guaranteed.
- The manufacturer reserves the right to decide whether to repair any defective parts or replace the entire unit.
- All costs resulting from damage caused by misuse, transport, improper power supply, are not covered by this warranty.
- If the appliance is not installed or positioned as indicated in this manual, the responsible company will not be liable for any damage caused by misuse.
- Any improper handling will invalidate the warranty.
- In the latter case of recourse to legislation, both parties will be under the jurisdiction of the courts of the manufacturer's province.

EQUIPMENT CONFIGURATION



PROGRAMMING

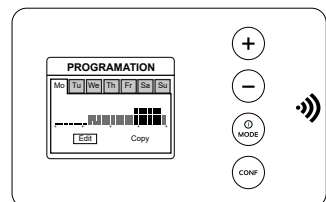
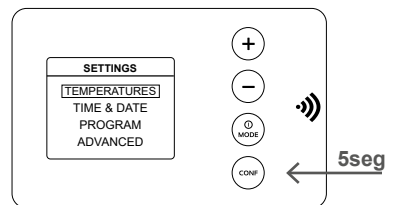
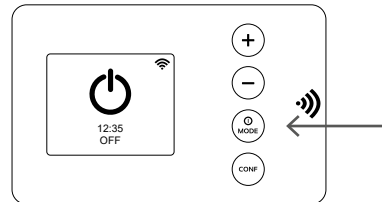
Press the “MODE” button to switch between (ON) and (STANDBY[V1.7]/OFF[V1.8]) states.

In either of these modes, press and hold the “CONF” button to access the SETTINGS option. In this screen, the following options will be found (use the + or - keys to scroll through them and confirm with the “MODE” button):

Temperatures: In this option, it is possible to set the Comfort, Eco and Anti-frost temperatures. The predefined values will be those used in PROGRAMMING. By default, the values are: Anti-frost: 5°C, Eco: 18°C, Comfort: 21°C.

Time and date: This option cannot be accessed if the device is connected to the Internet. Here you can change the time, date and format (24h/12h am-pm). To make changes, use the +/- keys to scroll to the desired option and press the “MODE” button. Once inside the time or date option, press “MODE” until the selection flashes, adjust the value with the +/- keys and press “MODE” again to confirm..

Programming: If the operating mode is FIXED TEMPERATURE, this option will be disabled. In this section, it is possible to set the weekly programming by choosing, for each hour, one of the available modes (Comfort, Eco or Anti-frost).



EQUIPMENT CONFIGURATION

To modify a specific day, select the desired day using the +/- keys and confirm with the "MODE" button. Then, choose between the edit or copy options using the +/- keys and confirm again with "MODE".

If edit is chosen, scroll through the hours with the +/- keys and change the mode with the "MODE" button.

Once you have set the temperature for one hour, scroll with the +/- keys to the next hour you wish to set and repeat the process. Confirm your changes by pressing the "CONF" button. To change another day of the week, press "CONF" again and scroll through the days using the +/- keys.

In the case of selecting the "Copy" option, navigate through the days to which you want to copy the current configuration using the +/- keys and select with the "MODE" button. Confirm with the CONF button.

By default, the programming is configured from Monday to Sunday as follows:

Electronics V1.7

- From 00:00h to 07:00h: Eco Mode / From 07:00h to 23:00h: Comfort Mode / From 23:00h to 00:00h: Eco Mode.

Electronics V1.8

- From 00:00h to 07:00h: OFF Mode / From 07:00h to 17:00h: Eco Mode / From 17:00h to 23:00h: Comfort Mode / From 23:00h to 00:00h: Eco Mode

Advanced:

Mode of operation: you can choose between:

- **Fixed temp.:** In this mode, the device operates at a fixed temperature setting (30°C). This temperature can be changed with the +/- keys. To confirm, wait until the temperature stops flashing (without pressing any buttons).
- **Weekly programming:** In this mode, the device follows the temperature programme set in the PROGRAMMING section. After starting the device, a start-up screen appears which can be either the Weekly Programming or the Fixed Temperature mode, only one of the two modes can be active.

Default value: Programming.

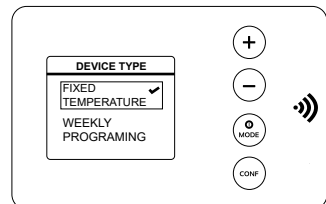
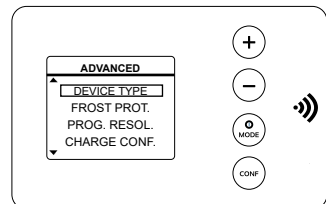
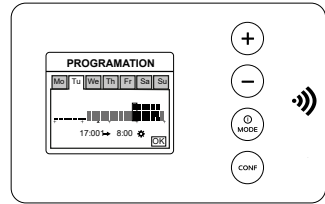
Frost portection: When this parameter is activated, the support resistor will be activated even if the equipment is in Standby mode, as long as the ambient temperature is below 3°C.

Default value: Disabled.

Program resolution: This function allows you to define whether scheduling takes place every hour or every half hour. Default value: Every hour.

Charge configuration: This function allows you to set the values for the load and the support resistance.

- Backup heater configuration: If the ONLY PEAK option is chosen, the backup heater can be



EQUIPMENT CONFIGURATION

activated outside the charging period if the fan is not sufficient and the load is low (below 50%). The support resistor can never be activated during the load period. Default value: Peak only.

- **Weekly programming:** With this option you can select the charging period and charging days. Up to two different periods can be chosen, defining the start and end time. The default setting is as follows: a charging period from 00:00h to 07:00h every day.
- **Balancing:** This option allows you to alternate the operation of the heaters every hour during the charging period, significantly reducing the consumption of the accumulator. The TWO CHARGE and MIXED CHARGE options are only available on the 2450w battery. Default value: Disabled. (Not available on 1600w model).

	HHR 2550	HHR 3400
One Load	1700w - 850w	1700w - 1700w
Two Loads	1700w - 2550w - 850w	-
Mixed Load	1700w - 850w	-
Switching shall always take place every 60 minutes. If charging is stopped and restarted, it shall always be at the beginning of the cycle.		

- **Smart charging:** This option allows you to calculate the excess charge in order to adjust it in the following days. If you deactivate this function, the device will charge daily until the TARGET CHARGE is reached. Default value: On.
- **Target charge:** If the INTELLIGENT CHARGE parameter is activated, you will not be able to modify this option.
- **Current charge:** Allows the user to view the current charge percentage of the accumulator at that moment.


Units: You can select between CELSIUS and FAHRENHEIT. Default value: CELSIUS.


Display: You can adjust several aspects:

- **Duration:** Defines the time for which the display light remains active, 10s, 20s, 30s or always. Default value: 10s.
- **Active brightness:** 100%, 75%, 50% or 25%. Default value: 100%.
- **Brightness inactive:** Off, 3%, 10% or 20%. Default value: Off.
- **Style:** You can change the style of the screen between Light B/W, Dark N/B or Color. Default value: Colour.

Beep: You can select between disabled or enabled. Default value: Disabled.

Control type: The product control mode can be selected between hysteresis and PID. Hysteresis control operates by the difference between the setpoint temperature and the room temperature, while PID is based on calculations to achieve the set temperature. Default value: PID15.

Open window: When this function is enabled, the storage tank will suspend the heat output when it detects a temperature drop of 1.2°C within 10 minutes. The symbol  will be shown on the display of the device. If any button is pressed or an increase of 0.3°C is detected within 10 minutes, the device will return to its normal state. Default value: Off.

Smart start : When this function is enabled, the equipment will activate the support resistance or the fan in advance, in order to reach the desired temperature at the programmed time. The maximum allowed anticipation is 24 hours. Default value: Disabled.

Offset: The product offers the possibility to set a compensation temperature in the room temperature sensor. It can be positive or negative. In the editing screen, it is possible to display the compensation value and the corrected room temperature. Default value: 0.0 °C.

EQUIPMENT CONFIGURATION

Language: you can choose between English, German or Spanish.

Parameters: **WARNING, this section could modify the factory settings of the equipment. Only a specialised technician should enter this section, the user should not enter or modify the parameters to avoid improper operation of the product..**

Set defaults: In case you want to set the current configuration of the equipment (the last configuration made) as default values, select YES..

Reset: In this menu you can reset the equipment back to default settings and unlink the device from the Internet.

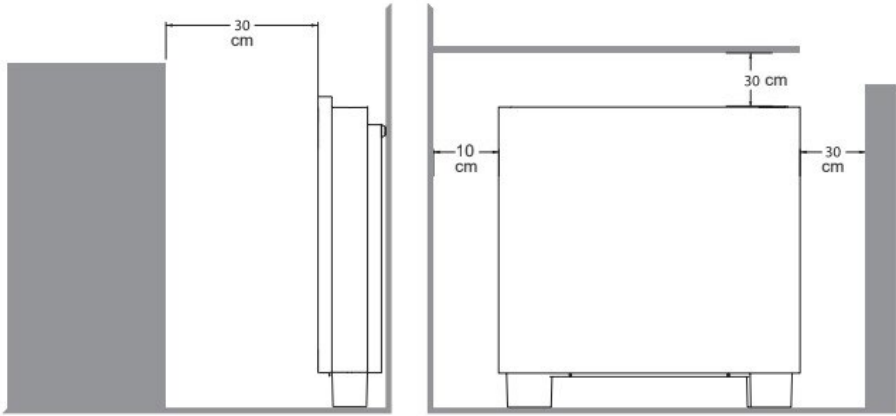
Version: Information about the current version of the electronics, you may need this information in case of a failure or malfunction.

OTHER FUNCTIONS

- **Boost:** This mode can be used to change the temperature momentarily. You can enter this option having configured any of the previous modes (fixed temperature mode or weekly programming). To activate it, from the main screen, press the +/- button, press CONF to select the temperature and set the time that the active Boost mode will last. Press MODE to confirm.
If the previous mode was Fixed temperature, the time setting can be; 0h to 5h, all day or forever. If the previous mode was Schedule, by pressing the Config button, you can define the time during which the change is applied. The time setting is selected with the +/- key and can be: 0h to 5h or all day. Accept with MODE. To deactivate the Boost function and return to the previous mode, press the MODE button..
- **Keyboard lock:** The device locks the keys. To activate it, press the + and - buttons for 5s. Repeat this step to deactivate it.

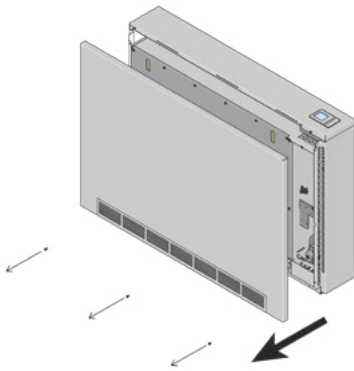
MOUNTING INSTRUCTIONS

SAFETY DISTANCES



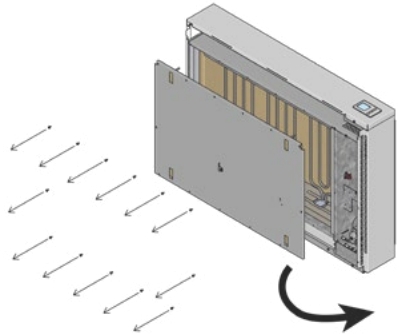
MOUNTING INSTRUCTIONS

1



Step 1: Remove the three bottom screws. Remove the front panel of the unit.

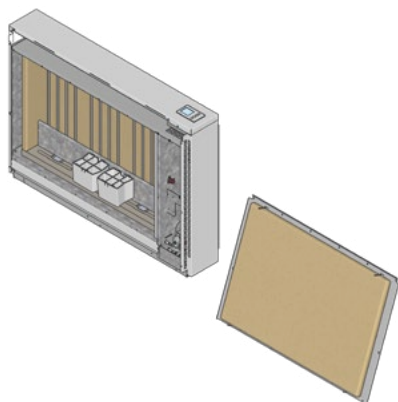
2



Step 2: Remove the screws holding the core cover. Remove the core cover (very carefully) to access the base kit.

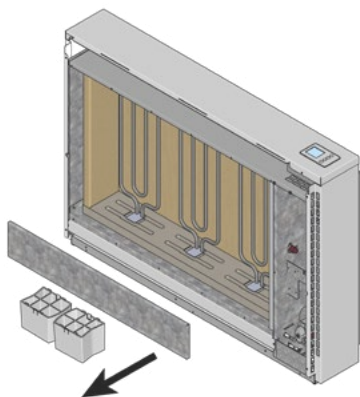
MOUNTING INSTRUCTIONS

3



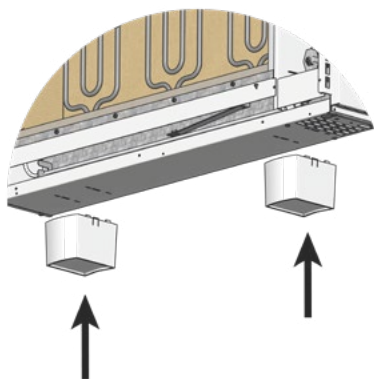
Step 3: Carefully place the core cap on the side of the equipment.

4



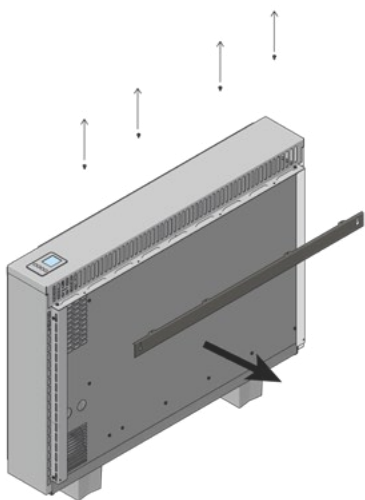
Step 4: Remove the legs and the metal tray inside. Carefully lay the equipment down.

5



Step 5: Place the feet on the bottom of the accumulator.

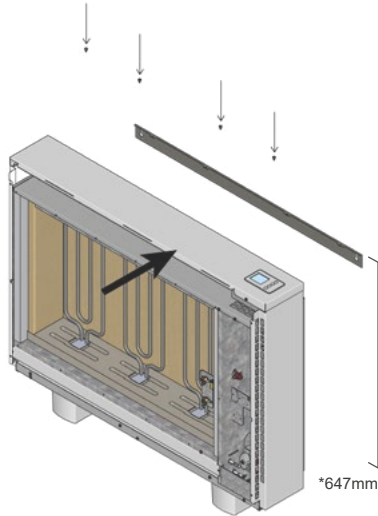
6



Step 6: Unscrew the anchoring bracket at the rear and remove it.

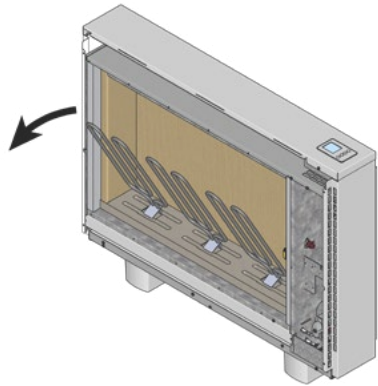
MOUNTING INSTRUCTIONS

7



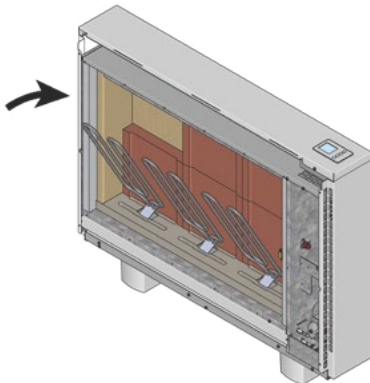
Step 7: Mark and drill the wall. Insert the dowel into the hole and screw the bracket to the wall. Position and screw the equipment. *Distance to the floor.

8



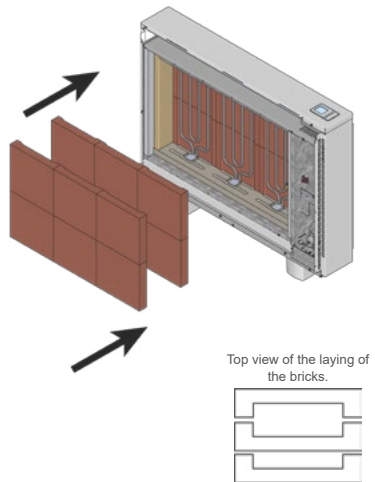
Step 8: Once the battery is in place, tilt the resistors forward as shown in the picture.

9



Step 9: Lay the back row of bricks and place the resistors in a vertical position.

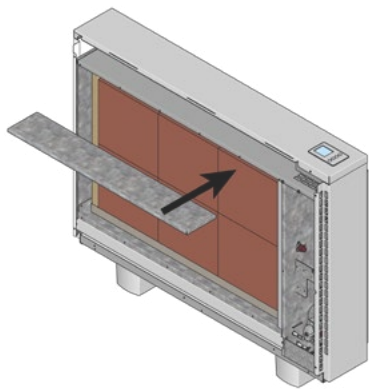
10



Step 10: Lay the remaining two rows of bricks.

MOUNTING INSTRUCTIONS

11

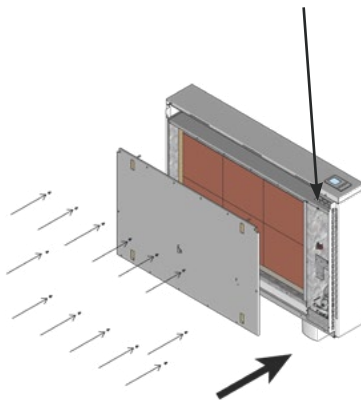


Step 11: Place the metal tray on top (smooth side up) between the insulation and the bricks.

12

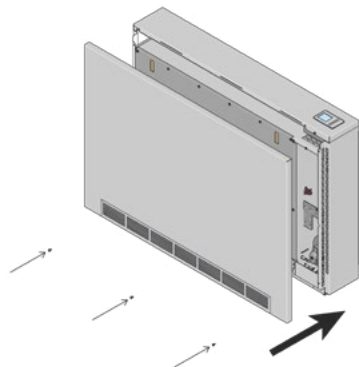
 Remove before use
 Retirez avant de servir

Remove the battery protector on the electronics before use. It is located in the area marked protruding from the electronics by the red part of the label.

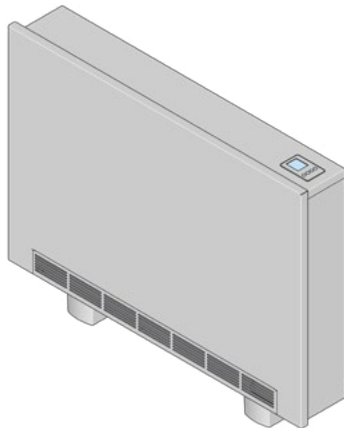


Step 12: Put the core cap in position and screw it in place.

13



Step 13: Fit the front panel and screw it back on.



FAQ

TROUBLE	ACTION	SOLUTION
No load	Check that there has been a normal power supply during the night	
	Check that the electronics and switch are not in the off position.	Plug it in and regulate it according to your needs.
	Check that the circuit breakers on the power panel are connected.	Connect the corresponding switch.
	If you have a timer in the connection socket, check that it is properly programmed at night.	Schedule properly.
	You have discarded the previous points and the anomaly remains. The safety device may need to be reset.	Consult your installer or call our S.A.T.
Not hot enough	Check the temperature shown on the display is the desired one.	Increase the load to a higher position.
	Check that the windows in the room have not been left open for a long period of time.	Wait for a new charging cycle and check the behavior of the accumulator with the windows closed.
	You have discarded the previous points and the anomaly remains.	It is possible that the power of your equipment is not well dimensioned for the needs of the premises. Consult your installer or call our S.A.T.
Heat excess	Check the selected temperature.	Reduce the load to a lower level.
	You have discarded the previous points and the anomaly remains.	Consult your installer or call our S.A.T.
Stains appear on the wall *	There is construction residue, dust, etc ... in the vicinity of the accumulator.	I cleaned extensively around the equipment daily.
	You have pets	Keep them away from the environment of the appliance, especially during hair change times.
	You have wool rugs, carpets, etc. near the appliance.	Keep them as far away from the accumulator as possible.
	It may be that the paint in your home has a high epoxy content or that its composition contains pigments that degrade with heat.	This situation will be checked if by passing a damp cloth over the stain it does not disappear.
	You live on the lower floors of an urban building located in a busy area.	Try to keep windows closed as long as possible.
FREQUENT QUESTIONS		
Can it work only with a night rate plug?		It is designed to be powered with a single hose and a daytime plug (24 hours) to be able to calculate the necessary load in the core and its optimization in electricity consumption. Could it work on a night socket? The answer would be yes, but it would not be possible to optimize electricity consumption since it would charge continuously until it reached 100%.
What is the build-up resistor? and What is the emission resistance?		The accumulation resistance is that emitted by the core resistors and the emission resistance is that emitted by the auxiliary resistance.
Where is the switchboard connected?		It can be plugged into the router directly or into a plug (with usb adapter). The operation is as follows: the electronics are connected to the switchboard creating a network and then the electronics are connected to the Wi-Fi of the house. The usb will ask for the wifi key to access.
How do they affect and what are the temperatures in comfort, moon and antifreeze mode?		In charging mode, the comfort temperature is to stop charging once the set temperature is exceeded by two degrees and when the auxiliary heater is working, it stops when the set temperature is exceeded.
What is TRUE RADIANT for?		This is to anticipate the activation of the auxiliary resistance depending on the history of how long it takes to reach the set temperature.

* The accumulators do not have any combustible element, the appearance of stains on the wall is rare, and is always due to environmental factors, highlighting those outlined above. The combustion of these elements, dust, hair, etc. they generate the residue that is deposited on the wall..

ECO-DESIGN

Item	Unit
Calorific power	
Manual control of the heat load, with integrated thermostat.	yes
Manual control of heat load with response to indoor or outdoor temperature	yes
Electronic control of heat load with response to indoor or outdoor temperature	yes
Fan-assisted heating power	yes
Indoor temperature / heat output control type (select one)	
Single level heat output, no indoor temperature control no	no
Two or more manual levels, no indoor temperature control no	no
With internal temperature control by mechanical thermostat no	no
With electronic control of interior temperature no	no
Electronic indoor temperature control and daily timer no	no
Electronic interior temperature control and weekly timer yes	yes
Other control options (several can be selected)	
Indoor temperature control with presence detection	no
Interior temperature control with open window detection yes	yes
With remote control option yes	yes
With adaptive start control yes	yes
With operating time limitation yes	yes
With black lamp sensor no	no
Contact information: see back cover	

Data			Value		
Departure	Symbol	Unit	1650	2550	3400
Heating power					
Nominal heating power	P_{nom}	kW	1,650	2,550	3,400
Minimum heat output (indicative)	P_{min}	kW	N.A.	N.A.	N.A.
Maximum continuous heat output	$P_{max,c}$	kW	1,650	2,550	3,400
Auxiliary electricity consumption					
At nominal heat output	el_{max}	kW	1,650	2,550	3,400
At minimum heat output	el_{min}	kW	N.A.	N.A.	N.A.
In standby mode	el_{SB}	kW	0,0005	0,0005	0,0005





Electrorad UK Limited
Unit 1 Clayton Park Clayton Wood Rise
West Park Leeds LS16 6RF UK
INFO@ELECTRORAD.CO.UK
Telephone: 01132746799