



THERMAL INERTIA RADIATORS





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GABARRÓN ranges of Thermal Inertia Radiators use two different types of technology: EcoFluid based on an optimum thermal inertia and heat transfer through a low viscosity and environmentally friendly thermo fluid, and EcoSeco Technology, a real innovation in heat transference based on a primary core and a secondary heat amplifier.

The high quality aluminium elements design, allows a natural convection of air through the radiator, providing perfect heat distribution, radiation and a thermal inertia that ensures very low running costs.

The real core of these devices, however, is their Electronic Triac Control Optimiser (ETCO). This manages and restricts the flow of electricity to guarantee low consumption.

We also include a highly accurate ambient thermostat ($\pm 0.1^{\circ}\text{C}$ precision), that provides the best temperature control and reduces electricity consumption.

And the patented and uniquely designed wall fixing brackets allow the radiator to be installed and levelled simply in no more than 5 minutes.

This range is the perfect individualised central heating with a programmable switch-on timer and a temperature set up for each room. Hour by hour and day by day functions can be set up on Comfort, Eco and Frost Protection modes.

No maintenance is required as there are no boilers or pipes involved. This also means no breakdowns due to lime accumulation and no water loss caused by leaks or faulty welding.

With two stylish aesthetic designs, three different family ranges and an excellent quality finish, the thermal radiator will blend in with any existing décor and is easily cleaned. With ranges from 500W to 2000W, they can fit any room dimension, style and decoration.

GABARRÓN inertia radiators do not require maintenance or any form of annual servicing. They can be used with renewable energy sources coming from natural resources.



Gabarrón
Manufacturing Excellence

TECHNICAL DETAILS THAT MAKE THE DIFFERENCE

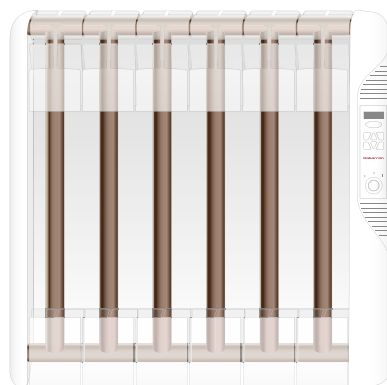
100% EFFICIENCY

ELNUR's quest for continuous improvement has driven us over the years to invest in innovation and development to obtain maximum efficiency and performance in **GABARRÓN** products. As a result of these research efforts and use of the most advanced technology, we have achieved excellent performance in our products and perfect temperature management control. The use of highly sensitive thermostats, raw materials and other high-quality components, together with exclusive design and configuration, is what defines the unique performances of GABARRÓN products, providing the comfort desired by the customer at minimum cost.



Patented system using EcoSeco technology. The heat transmitter, covering all of the radiator's interior, allows the heat to be dispersed evenly over the surface.

In the radiators that use **ecoSeco** patented technology, the interior is composed of a heat transmitter specifically designed to disperse the heat evenly over the entire surface of the appliance.



Traditional system with thermal fluid.

With radiators using **ecofluid** Technology, thermal inertia is also achieved through the use of an injected aluminium structure with thermal fluid inside, specifically designed to disperse the heat over its entire surface.

In both technologies the heat transference to the room is perfectly distributed.

The THERMAL INERTIA is the quantity of heat that a body can keep and the speed of this body to transmit and absorb this heat. It will depend on its mass, materials and its conductivity.

The thermal inertia offered by GABARRÓN's radiators has allowed them to increase their efficiency due on the one hand to the heat that their body is able to store and on the other hand, the support of one of the two technologies used together providing a perfect calorific performance.

GABARRÓN EcoFluid radiators guarantee 125W heat in each element. Gabarrón aluminium radiators have up to 30% more in aluminium injected material and up to 20% more thermal fluid in each element than other similar products in the market. This allows us to dissipate the heat more efficiently to the room avoiding dangerous high temperature surfaces.

HIGH QUALITY COMPONENTS

Everybody talks about the concepts of “efficiency” and “low consumption”. Therefore, the less energy a product consumes, the happier customers will be, since it means saving money on a daily basis, which will consequently result in more significant long-term savings.

However, taking into account that most electrical heating systems offer 100% energy efficiency, as shown below, how can we ensure energy savings across different electric heating systems? Furthermore, what about when it comes to similar systems from different manufacturers?

100% EFFICIENCY



1 WATT CONSUMED = 1 WATT OF ENERGY PRODUCED

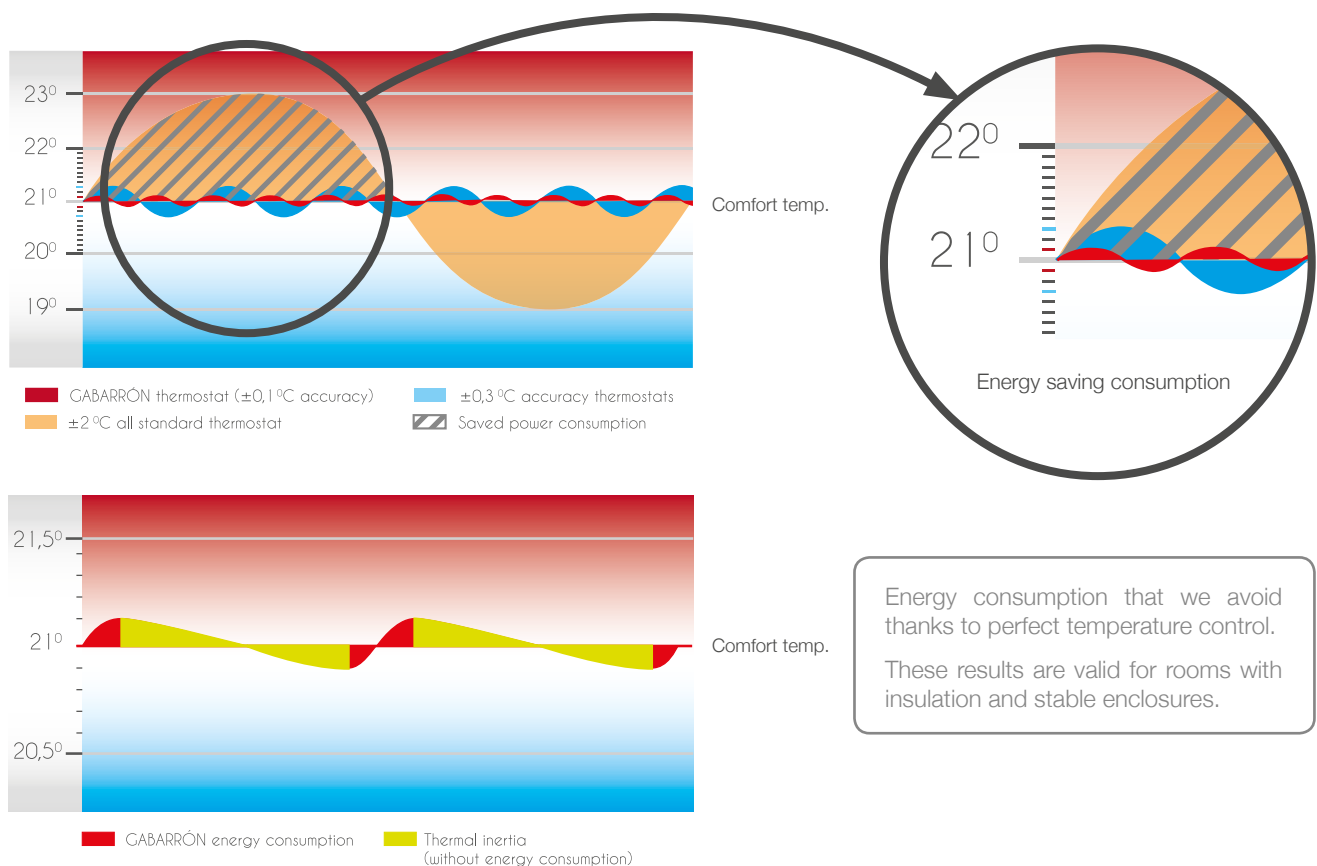
The key is accurate temperature control management. A heater that provides the desired temperature in a particular room is not enough; it has to achieve this using as little energy as possible.

Large fluctuations in room temperature lead to higher energy demand, since a change in room temperature of 1°C means that the heater must start again and take the extra time required to reach a comfortable temperature again.

Thanks to the highly accurate thermostat and to the thermal sensitivity that GABARRÓN radiators offer, these large temperature fluctuations are avoided. Our radiators offer one of the most efficient thermal variations in the industry, with a $\pm 0.1^\circ\text{C}$ accuracy compared with other manufacturers ($\pm 0.3^\circ\text{C}$) or even other traditional room temperature control systems, which can have an accuracy of $\pm 2^\circ\text{C}$.

If to this accurate temperature control system we add the concept of thermal inertia, on the basis of which all GABARRÓN radiators are able to function, levels of performance as well as energy consumption improve considerably.

If we avoid large temperature fluctuations and manage to maintain an adequate thermal stability, we will reduce the inefficient use of energy.

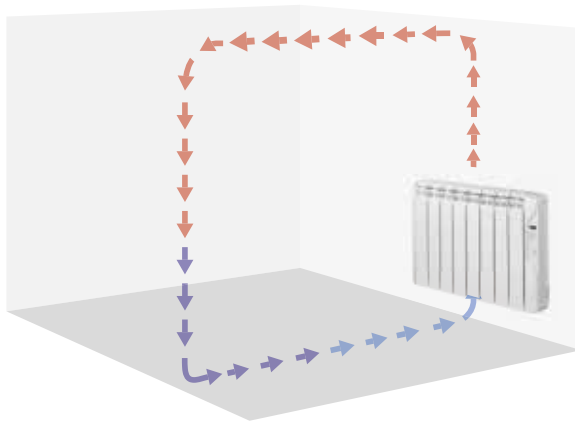


Energy consumption that we avoid thanks to perfect temperature control.

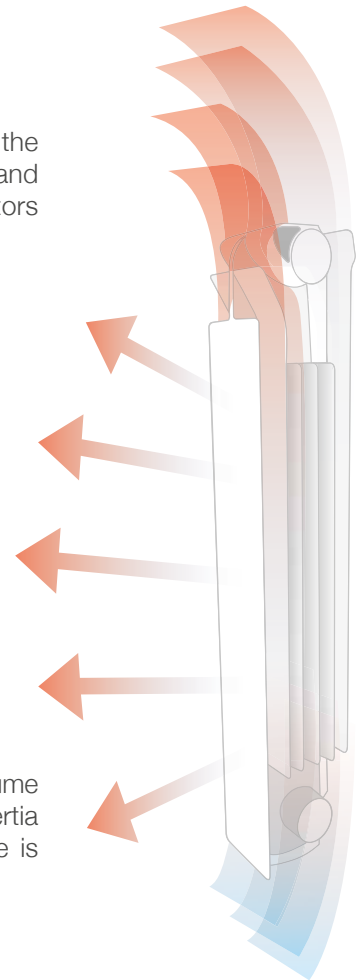
These results are valid for rooms with insulation and stable enclosures.

IMMEDIATE COMFORT

In addition to the heat convection feature, GABARRÓN radiators transmit heat using the entire front surface of the appliance, achieving a rapid transfer of heat to the whole room and a high level of comfort... Once again, thanks to their thermal inertia, GABARRÓN radiators are able to maintain this comfortable temperature over a much longer period of time.



In comparison with other heating systems, such as convectors, GABARRÓN radiators consume far less electricity, saving up to 40% in energy costs. This is due not only to the thermal inertia properties key to their construction, but also to how quickly a comfortable temperature is reached with their larger heat transfer surface area.

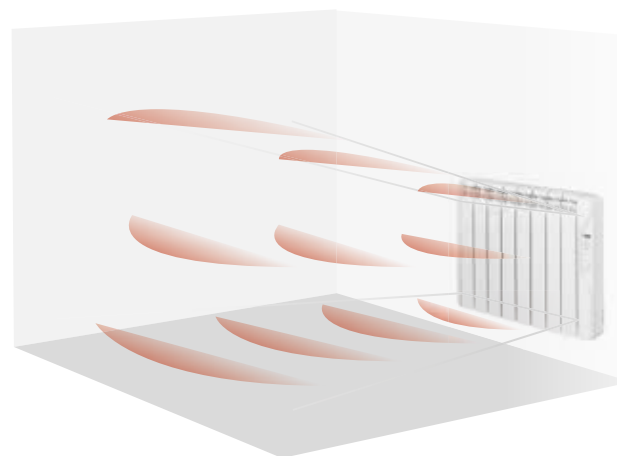


TECHNOLOGY AND REGULATION ADAPTED TO YOUR NEEDS

At **ELNUR** we strive every day to meet the highest expectations of our customers. Therefore, with our wide range of GABARRÓN radiators we are able to offer different technologies and different control options to cover all the needs and demands of our customers.

ecofluid Technology

GABARRÓN radiators based on EcoFluid technology use a thermal fluid specifically designed to provide a better and more rapid heat distribution over the entire surface of the appliance. This fluid is environmentally friendly since it contains no carbonisable substances, it is not corrosive, and its composition is very stable and neutral.



ecoeco Technology

The EcoSeco technology patented by ELNUR does not use any type of thermal fluid. Instead it generates heat via a primary heat transmitter, and the energy generated from this is captured by a secondary transmitter made of injected aluminium, which diffuses it, and increasing the surface area over which the heat extends.

In both technologies, natural air convection through the aluminium elements supplements the direct transmission of heat from its surface, allowing a perfect distribution of heat in each room.

TOTAL CONTROL IN YOUR HANDS

The RKSL series of thermal radiators with control management give the user the option to take advantage of the wide range of individual/centralised settings available with this model through the use of a remote control. Its infrared remote control allows for program configuration and other settings. With four function modes all the radiators in the different rooms of your home can be quickly set to the same or different temperatures as required.



TPG-IR remote control

ETCO Electronic Triac Control Optimiser

ETCO micro processor is the latest technology in electric control consumption. This electronic optimizer actually manages and restricts the flow of electricity to the heating elements on the basis of the information taken from the thermostat.



ETCO - Electronic Triac Control Optimiser.

SECURITY SYSTEM WITH ONE-YEAR MEMORY BACKUP FEATURE

The development of our own technology has enabled us to incorporate in our RF and RX ranges a Security System with a memory backup to 12 months. This feature is key, since if one appliance is disconnected from the mains supply for a period of between three and ten minutes (depending on the manufacturers), the time and consequently the programming of the appliance will be lost, and the appliance will not work until this time is re-programmed.

This exclusive **GABARRÓN** feature will prevent loss of programming due to:

- ▶ Accidental disconnections.
- ▶ Forced disconnections during summer.
- ▶ Programmed disconnections by the action of external accessory devices installed to obtain energy savings, such as automatic devices used to open windows, presence detectors, etc...

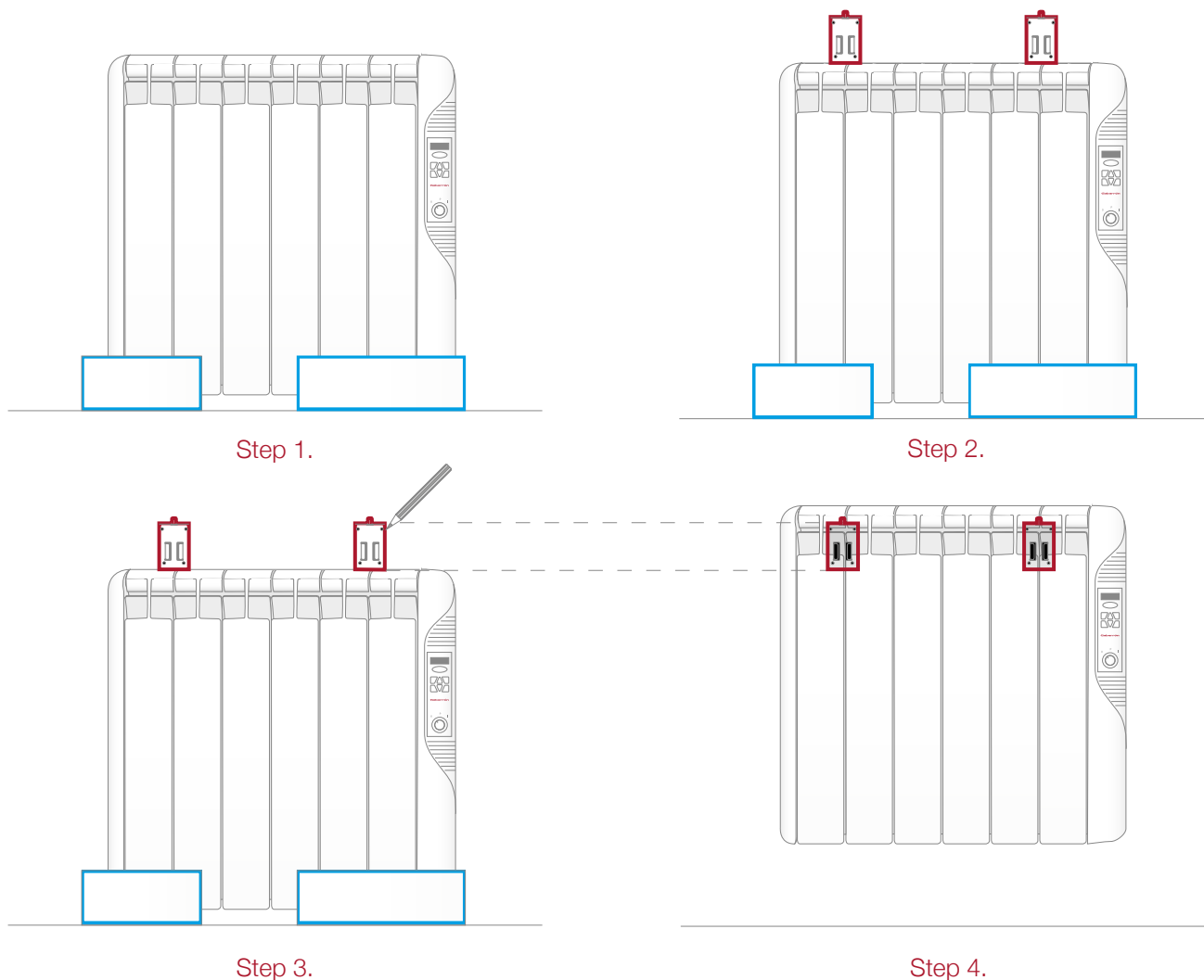


1-year memory back up device.

PATENTED WALL FIXING BRACKETS

At ELNUR we are constantly aware of the need to improve the operation and performance of our GABARRÓN radiators, and to do everything to facilitate the work involved and guarantee excellent results when fitting these appliances.

With our patented wall fixing brackets the installation engineers can quickly fix the brackets to the wall in the appropriate place and without any measuring or levelling problems.



Some simple steps that will save the installation engineer valuable time and effort:

1. Place the radiator on the floor with the polypropylene protections in the lower part (in blue).
2. Fit the bracket into the upper groove (in red).
3. Mark the holes with a pencil.
4. Once the holes are made and the brackets are properly screwed to the wall, the radiator can be hung.

Fast, comfortable, easy and simple, ensuring that the radiator is fitted flush at the first attempt.



Patented wall fixing brackets make installation easy

CONTROL SETTINGS

All **GABARRÓN** radiators have been designed with different setting systems based on digital electronics to meet the requirements of different users according to their needs.

These types of settings can be analogue, digital or programmable. Their control can be individual (regulating the appliance directly) or centralised (using CPL mains borne or pilot wiring technology).

CENTRALISED AND INDIVIDUAL KEYBOARD CONTROLS

These digital electronic controls allow for the individual setting of each appliance or the centralised setting of the entire system using pilot wiring or CPL mains borne technology by means of a programmable central control unit.

These central control units will enable you to control the operation and programming of different radiators located in different areas of the house. The RKS range of GABARRÓN radiators has this type of control setting.



RKSHi built-in control



RKSL built-in control

INDIVIDUAL KEYBOARD CONTROL

These electronic controls have been designed to manage the operation of each radiator independently. They enable simple and intuitive use and can be programmed on a daily or weekly basis. All GABARRÓN radiators have individual control keyboards.



RFP built-in control



RFE built-in control

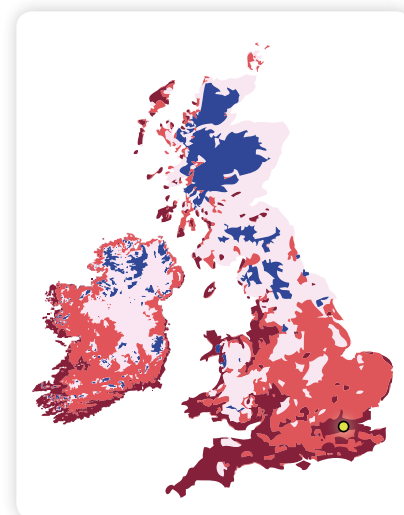
THERMAL MAPPING AND HEAT LOSS CALCULATION IN THE UK AND IRELAND

The table below shows recommended figures that will help to calculate the power requirement in kWatts to install **GABARRÓN** Thermal Inertia Radiators in the UK and Ireland.

To calculate the theoretical heat loss in a room it is necessary to match the room floor area with the total length of outside walls of this room. We should install the inertia thermal radiator with the power immediately above the theoretical power obtained.

In bedrooms and kitchens it is possible to reduce the theoretical power required by 20%. But in the same way, all rooms located in a top floor would be recommended to increase the theoretical power by 20% too.

These figures have been developed to get a comfort temperature of 21°C.



ELECTRIC THERMAL INERTIA RADIATORS

The table below shows which Electric Thermal Inertia Radiator in kWatts is best suited for the area you are looking to heat. All you need is the floor area and total outside wall length to calculate your radiators.

Floor Area m ²	Temp. to obtain °C	TOTAL LENGTH OF OUTSIDE WALL (Mtr)											
		1.5m	2m	3m	4m	5m	6m	7m	8m	9m	10m	11m	12m
Up to 3m ²	21°C	0.50	0.50	0.75	0.75	0.75	1.00						
	18°C	0.50	0.50	0.50	0.75	0.75	1.00						
Up to 6m ²	21°C	0.50	0.75	0.75	1.00	1.00	1.00	1.25	1.25				
	18°C	0.50	0.50	0.75	0.75	0.75	1.00	1.25	1.25				
Up to 9m ²	21°C	0.75	0.75	1.00	1.00	1.00	1.25	1.25	1.50	1.50	2.00		
	18°C	0.75	0.75	0.75	1.00	1.00	1.00	1.25	1.25	1.50	1.50		
Up to 12m ²	21°C	0.75	1.00	1.00	1.00	1.25	1.50	1.50	1.50	2.00	2.00	2.00	2.00
	18°C	0.75	0.75	1.00	1.00	1.25	1.25	1.25	1.50	1.50	2.00	2.00	2.00
Up to 15m ²	21°C	1.00	1.00	1.25	1.25	1.50	1.50	1.50	2.00	2.00	2.00	2.00	2.25
	18°C	1.00	1.00	1.00	1.25	1.25	1.25	1.50	1.50	1.50	2.00	2.00	2.00
Up to 18m ²	21°C	1.00	1.25	1.25	1.50	1.50	1.50	2.00	2.00	2.00	2.00	2.25	2.25
	18°C	1.00	1.00	1.25	1.25	1.25	1.50	1.50	1.50	2.00	2.00	2.00	2.00
Up to 21m ²	21°C	1.25	1.25	1.50	1.50	1.50	2.00	2.00	2.00	2.00	2.25	2.25	2.50
	18°C	1.00	1.00	1.25	1.50	1.50	1.50	2.00	2.00	2.00	2.00	2.00	2.00
Up to 24m ²	21°C	1.25	1.50	1.50	1.50	2.00	2.00	2.00	2.00	2.25	2.50	2.50	2.50
	18°C	1.25	1.25	1.50	1.50	1.50	2.00	2.00	2.00	2.00	2.00	2.25	2.25
Up to 27m ²	21°C	1.50	1.50	2.00	2.00	2.00	2.00	2.00	2.25	2.50	2.50	2.50	2.75
	18°C	1.25	1.50	1.50	1.50	2.00	2.00	2.00	2.00	2.00	2.25	2.25	2.50
Up to 30m ²	21°C	1.50	2.00	2.00	2.00	2.00	2.25	2.25	2.50	2.50	2.75	2.75	3.00
	18°C	1.50	1.50	2.00	2.00	2.00	2.00	2.00	2.00	2.25	2.50	2.50	2.50

ELECTRIC RADIATORS



RKSHi - Digital Control with pilot wiring and CPL mains borne programming options

RKSL - Digital Control with programmer, pilot wiring, CPL mains borne and remote control

RXE - Digital Control with programmer

RXP - Analogue Control



RFE - Digital Control with programmer

RFP - Analogue Control



RFE RANGE

Digital control with programmer



Technical features

- ▶ Digital temperature selector for displaying real temperature, set up temperature, clock and other messages.
- ▶ Weekly/daily programmer.
- ▶ Built-in electronic ambient thermostat $\pm 0,1^{\circ}\text{C}$.
- ▶ Electronic Triac control optimizer ETCO.
- ▶ Adjustable digital thermostat.
- ▶ Three-level temperature selector: Comfort, Economy and Frost-protection.
- ▶ Flat lockable keyboard for easy cleaning.
- ▶ On-Off switch built-in to front fascia.
- ▶ Choice of two different heights with ratings from 500 to 2000 W in 580 mm. size and from 750 to 1500 W in 430 mm. size.
- ▶ Thermal safety cut out.
- ▶ Class I insulation.
- ▶ Stylish aluminium body finished in epoxy powder coating RAL 9010.
- ▶ Fitted with mains cable.
- ▶ Patented safety wall fixing brackets for ease of installation.
- ▶ Compatible with our wireless window contact energy saver system, offered as accessory.



MODEL		RF4E	RF6E	RF8E	RF10E	RF12E	RF14E	Reduced Height - 430 mm.			RFC14E
Num. of modules		4	6	8	10	12	14	7	9	11	14
Length	cm	41.5	57.5	73.5	89.5	105.5	121.5	66.5	81.5	97.5	121.5
Depth*	cm	10	10	10	10	10	10	10	10	10	10
Height	cm	58	58	58	58	58	58	43	43	43	43
Weight	kg	9.5	13	16.5	20	23.5	27	12	15	17.5	21.5
Input	W	500	750	1000	1250	1500	2000	750	1000	1250	1500
Voltage	V	220-240	220-240	220-240	220-240	220-240	220-240	220-240	220-240	220-240	220-240
Frequency	Hz	50-60	50-60	50-60	50-60	50-60	50-60	50-60	50-60	50-60	50-60
EAN 13		8432336405105	8432336405204	8432336405303	8432336405402	8432336405501	8432336405709	8432336409400	8432336409609	8432336409808	8432336409707

*Plus 2cm space from the wall