

Ecombi

Maximum saving in running cost.
With Ecombi you make the numbers.



Gabarrón
Manufacturing Excellence



INNOVATION AT ITS FINEST

ECOMBI is a new efficient heating system that both controls electricity consumption and optimises heat management. Our system is the most economical of the **electric storage heating solutions** available in the market.

The ECOMBI smart system assesses energy consumption and heat loss in the room every day in order to establish the heat needs precisely and effectively adjusting the energy required.

The arrival of ECOMBI is a real revolution in traditional heating systems. ECOMBI optimises control of the energy running costs, while providing maximum comfort. This electric heating system adapts to your daily needs whatever the weather conditions.

Could you ask for more? Well you can with the ECOMBI smart system.

Once autumn arrives, the temperatures and weather can be very unpredictable well into spring. The days can be cold, very cold or there may even be days when the temperatures are mild and pleasant. ECOMBI constantly monitors room temperature using its high-sensitivity thermostat to ensure that the room is always at the desired temperature. ECOMBI will guarantee you feel warm and comfortable all day long on the coldest days or it will adjust the amount of heat required on those warmer days by means of the **ESICC (ECOMBI Smart Input Charge Control)** module to adjust the amount of heat required on those warmer days. This will avoid any unnecessary extra energy consumption.

The best quality components available on the market and this exclusive ESICC electronic module, patented and designed by **ELNUR**, provide an outstanding level of performance and offer the user cheaper and customised heating. This is what the **ECOMBI** System, the most innovative and outstanding heating system and the only one of its kind on the market, is all about.

"Let us show you innovation at its finest"

ECOMBI

*"THE FUTURE IS
ALREADY PRESENT
WITH ECOMBI
SYSTEM"*

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EFFICIENCY IS ALL DOWN TO CONTROL

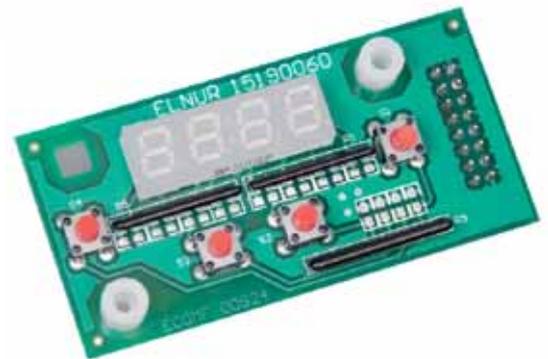
The cornerstone of **ECOMBI** technological innovation patented by **ELNUR** is the dynamic management of the energy charging.

The use of the high sensitivity thermostats in electric heating units is essential to ensure greater control of their electricity consumption and to manage the temperature. **ECOMBI** incorporates this control system within its **ESICC electronic management module**.

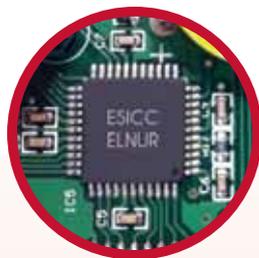
The ESICC module includes a **high sensitivity and precision thermostat** with an accuracy of $\pm 0,1$ °C, which continuously measures the temperature of the room and keeps the warmth at the comfort level desired by the customer.

Taking into account the temperature readings of the thermostat and the real heat needs in the room, the ESICC electronic management module **assesses the energy consumption** of the unit during the day and automatically adjusts energy charging to your comfort needs.

The **automatic charge adjustment** determines the amount of energy that the system forecasts that you will need and dynamically adjusts it each day, which will effectively reduce energy consumption.



ESICC (**ECOMBI** Smart Input Charge Control) electronic management module



OFF PEAK TARIFF

In the same way as the traditional storage heater, the **ECOMBI** system is designed to use the Time-Of-Use (TOU) or Time-Of-Day (TOD) low cost off-peak electricity.

How does Off Peak Electricity works

Most electricity providers offer heavily discounted rates for electricity consumed during off peak electricity times, giving you the chance to save money on your energy bill. Off peak electricity is provided during set times of the day when homes and businesses use a lot less electricity. Off peak times are typically between 11pm and 7am, but they can vary depending on the area.

What are Off Peak Electricity times?

Electricity providers would prefer to provide a steady supply of electricity throughout the day and night, because the turbines that generate electricity cannot be easily turned on and off as we need power in our homes. People generally use most of their electricity during the morning and evening. To encourage people to use electricity during other times of the day, many providers offer cheaper electricity during periods known as off peak electricity times. In homes, off peak electricity is commonly used to heat water and can also be used to power other heating appliances that are able to store heat when not in use.

How do you access Off Peak Electricity rates?

You have to contact to your local Electricity provider to get more details about Time-Of-Use (TOU) or Time-Of-Day (TOD) low cost Off Peak electricity rates availability in your area.



ECOMBI AND THE TRADITIONAL ELECTRIC STORAGE SYSTEMS

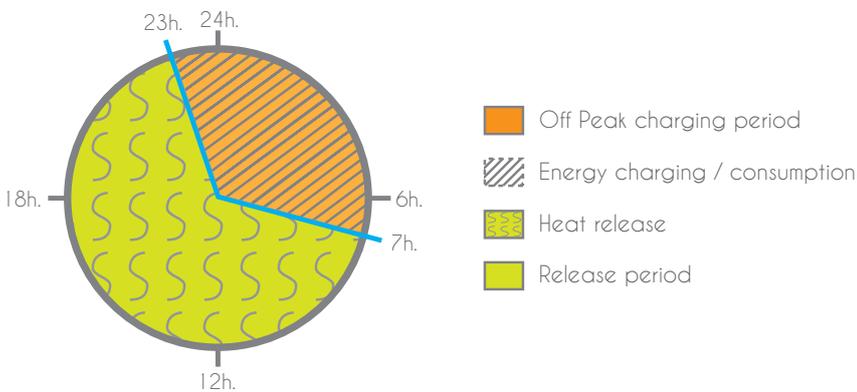
During the autumn, the cold winter and into spring, your heating system will have to deal with different temperatures. The operating of a traditional Electric Storage System is simple: storing all the heat possible while it is being charged, coinciding with the Time-Of-Use (TOU) or Time-Of-Day (TOD) low cost off-peak electricity tariff, and releasing it into the room during the rest of the day.

The greatest advantage of these traditional systems is their ability to provide a comfortable temperature at a really affordable price all day long.

STATIC STORAGE HEATER

In the case of **Static Storage Heaters**, also manufactured by **ELNUR**, the charge control is regulated by the **"Dual Sensor" patented system**. This system will switch the charging of the units on and off according to the temperature readings taken inside the equipment, inside the room and outside the home.

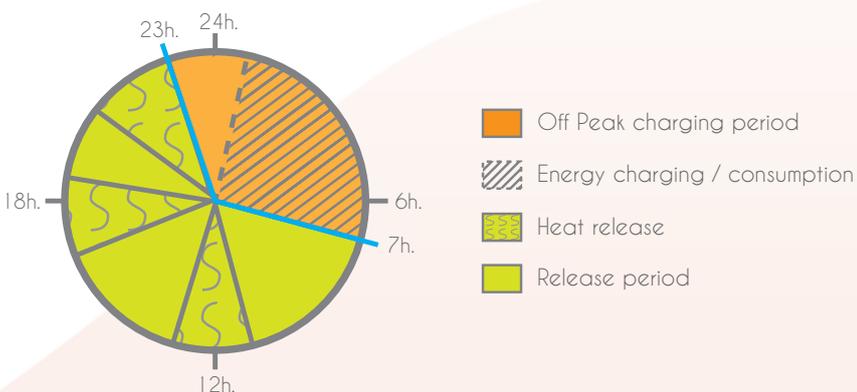
The **"Dual Sensor"** system of a **GABARRÓN** Static Storage Heater can help to cut electricity consumption by 15% compared to other static storage heaters in the market which do not include this system.



A Static Storage Heater normally uses the complete off peak charging period to load its core of energy at 100%. It will release this stored heat during the release period. By including the DUAL SENSOR module, savings can be increased by 15%.

FAN-FORCED STORAGE HEATER

In the case of **Dynamic Storage Heaters (Fan Forced)**, the charging is performed in a similar way, but the main advantage of this system is how the release of the stored heat is controlled and the option of the stored heat being released when the customer really requires it. These storage heaters are ideal for large and open areas. If the user manages the temperature optimally, storage heaters can result in an energy saving of 25%.



A Fan Forced Storage Heater will not use the complete off peak charging period because it will not discharge completely the heat during the release period. It will only release the heat when it is strictly needed and programmed by the user. By using Fan Forced Storage Heater with a programmer, savings can be increased by 25%.

ECOMBI

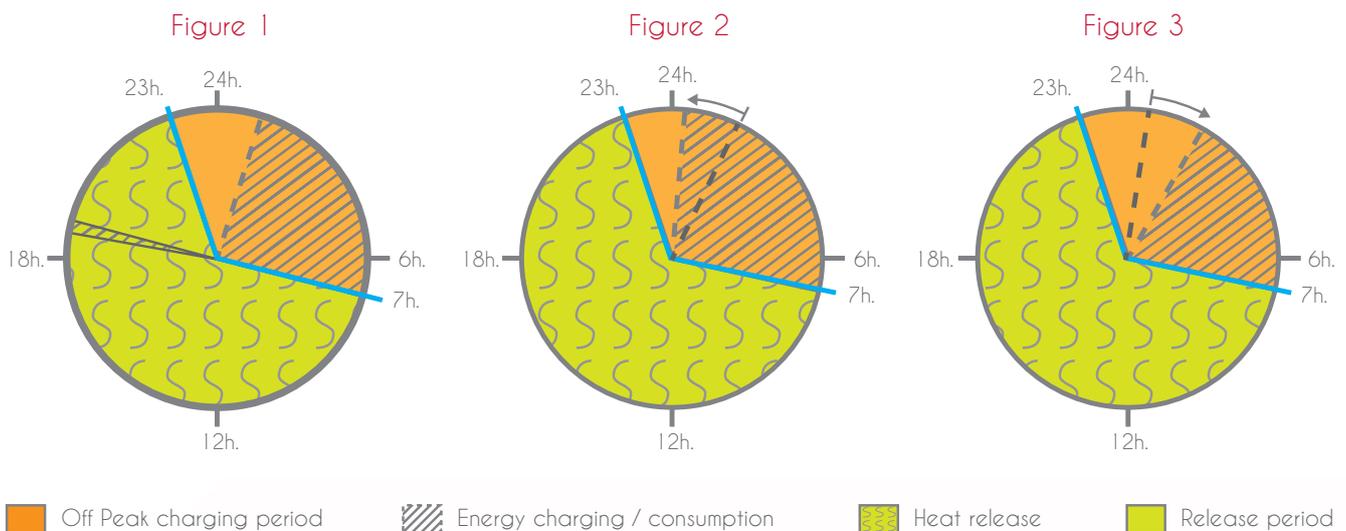
ECOMBI includes an automatic **charge adjustment**. The temperature is continuously managed and the consumption assessed every day by the **ESICC module**. ESICC will define and adapt the charging and consumption during the off-peak charging period, taking into account the temperature needs established by the user in the room.

Another of the major benefits of the ECOMBI system is that, in the case of a sharp change in temperature or unexpected heat loss in the room, it can provide additional heat using a back-up heater.

The innovative ECOMBI System can reduce energy consumption by 35%.

When you use Dynamic or Static Storage Heaters on warmer days, you might find that the room is too warm and the desired comfort level is lost. This excess heat will be noted during the middle of the day, precisely when the temperatures are usually highest in a 24 hour day.

The innovative ESICC control module of the ECOMBI system automatically adjusts the charging, by assessing previous consumption and adapting to your desired temperatures. ECOMBI provides maximum savings in energy consumption.



ECOMBI is programmed to store only the required energy to maintain a set up temperature in a room. It may be necessary to have extra heat in the release period, for a short time, to maintain the room set up temperature. (Figure 1). In this case during the next Off Peak charging period the energy load would increase. (Figure 2). But if extra heat is not necessary then ECOMBI will reduce the load in the next Off Peak charging period (Figure 3). By using ECOMBI System, savings can be increased by 35%.



Lower energy consumption

=



savings at the end of the month

=



greater sustainability

DIFFERENT NEEDS, DIFFERENT OPERATING MODES.

"Choose the right one for you"

Apart from managing the temperature and controlling the energy charging, the ECOMBI Smart System comes with 5 different operating modes so that users can decide which one best meets their needs.

FROST PROTECTION MODE

This mode is perfect for those weekend homes or office premises, located in cold areas, where the equipment will not be running several days a week or even for long periods of time. In this case, if you activate the frost-protection mode, ECOMBI will not allow the room temperature to fall under 7°C, thus avoiding problems such as the pipes freezing up or the house getting too cold or damp before it is next used.

By using the Frost-Protection Mode together with the weekly programming, you can decide which days of the week you want the equipment to be running and which of these are in frost-protection mode.

STORAGE MODE

This option will allow ECOMBI to operate as a traditional standard storage heater.

CONVECTION MODE

When the weather warms up in spring, you usually switch off the heating as you do not need it. However, there is usually still the odd day when the temperature drops and you need some form of heating quickly. The convection mode in ECOMBI is ideal to heat up a room quickly.

COMBINED STORAGE MODE

In this mode, ECOMBI will operate as a traditional standard storage heater, backed up by a convection system that can be used as necessary to heat the room as required.

There are times, particularly in spring and autumn, when the temperature can change sharply from one day to another, or even on the same day. The storage heater might not have charged all the energy needed to provide the heat the room may require. Some extra heating would be needed as a back-up to ensure the room is at a comfortable temperature.

AUTOMATIC ECOMBI MODE

This is the very essence of the ECOMBI System. This option allows ECOMBI to run in a combined mode, but with the great advantage of automatically correcting the energy charging. It will only be charged during the off-peak tariff.

If extra heating is needed in the room, the additional convection system will be activated to heat the room as required. This feature will be assessed by the ESICC electronic control module, which will correct the energy charging during the next off peak charging period in order to minimise the use of this convection element.

In the same way, if the room is too hot, the ESSIC smart module will lower the energy charging.

Why spend more if I am going to need less?

By adjusting the charging to the temperature requirements of the user, **ECOMBI WILL ONLY CHARGE THE REAL REQUIRED ENERGY** to heat up the room. All this according to the ESICC electronic control module.

This will lead to significant energy savings.

"Savings for your wallet while not forgetting sustainability"

"Choose your mode and enjoy the comfort at your home"



GREAT BENEFITS, GREAT VIRTUES

Extremely user friendly with just three simple steps

The ECOMBI control panel is highly intuitive. Thanks to its user-friendly system, it will take you just three simple steps to set the mode and desired temperature.



To set it in the Automatic **ECOMBI** Mode, push the "mod." button until an "A" appears on the screen.



Use the "+" and "-" keys to select the desired temperature of the room.



And that is all it takes to enjoy the all day long comfort of the **ECOMBI** System.

Individualised control

The ECOMBI units have an individual thermostat for constant and separate control of the room heat requirements where it is installed.

An ECOMBI installation does not require external charging control units or additional timers.
It is all included in each ECOMBI.

Possibility of managing different charging periods

ECOMBI allows different charging periods to be programmed during a single 24-hour interval. Each unit has its own digital timer to set the available Time Of Use (TOU) or Time Of Day (TOD) off-peak tariff periods.

The system is also pre- set up to be directly connected with digital meters in the future, which means that the electricity company itself could manage the energy charging of the system directly.

Delayed Charging

A very useful feature of the ECOMBI System that helps to optimise managing the energy is the delayed charging. If the off-peak tariff charging period is from 11.00 p.m. to 7.00 a.m. and ECOMBI has established that it needs to charge 50%, the charging will take place in the second part of the charging period. This means that the ECOMBI will be 100% ready at the start of the peak tariff period, thus making the most of cost-cutting potential.

This feature may be turned on or off using the unit parameters.

Weekly programming

The ECOMBI system has a weekly programme feature to meet your needs.

You can programme your ECOMBI unit to run on the days of the week that you choose. This option is very useful when used in weekend homes or in offices, where there are days of the week when the system does not need to be run.

"With the ECOMBI System, everything is under control"



TECHNICAL FEATURES

- ▶ Silent performance.
- ▶ Temperature sensor with calibration option.
- ▶ Overheating protection at storage heating.
- ▶ Safety thermostat with manual reset.
- ▶ Convector heating element made of Aluminium.
- ▶ Storage heating elements made of stainless steel.
- ▶ Microtherm G 12mm insulation, vermiculite and ecological fibre.
- ▶ Front, side and rear air isolating chambers.
- ▶ Storage core made of a specially designed material for ECOMBI.
- ▶ Steel structure powder coated in epoxy RAL 9010.
- ▶ Robust plastic fittings.
- ▶ Easy to install on any kind of wall.
- ▶ Very intuitive keyboard with lock option.
- ▶ Compatible with two-period off peak electric tariff in a single 24-hour interval.
- ▶ Daily and weekly programming.
- ▶ Deferred storage energy option.
- ▶ Storage, Combined storage, Convection, Frost protection and Automatic ECOMBI operation modes can be set up.
- ▶ Weekly programming.
- ▶ Visual alarm.



ECOMBI SYSTEM INSTALLATIONS

To enjoy the desired level of comfort and lower costs provided by the ECOMBI System, an appropriate sizing of the room where it is to be installed is very important.

The energy calculation of the traditional storage systems must be **lowered by 15%** to perform the appropriate calculations with the **ECOMBI System**.



| MODEL | ECO158 | ECO208 | ECO308 | ECO408 |
|--------------------------------|---------------|----------------|-----------------|-----------------|
| Convector power* | 450W | 600W | 900W | 1200W |
| Storage heater power | 985W | 1310W | 1960W | 2620W |
| Charging (8h) | 7.9 kWh | 10.5 kWh | 15.7 kWh | 21.0 kWh |
| Connection | 240 V ~ 60Hz | 240 V ~ 60Hz | 240 V ~ 60Hz | 240 V ~ 60Hz |
| Length | 55cm (21.5") | 66cm (26") | 89cm (35") | 111cm (43.5") |
| Height | 73cm (28.5") | 73cm (28.5") | 73cm (28.5") | 73cm (28.5") |
| Depth | 18cm (7") | 18cm (7") | 18cm (7") | 18cm (7") |
| Weight | 57kg(126 lbs) | 76kg (168 lbs) | 111kg (245 lbs) | 147kg (324 lbs) |
| Insulation | Class I | Class I | Class I | Class I |
| Num. of bricks 7,5kg (16.5lbs) | - | 8 | 12 | 16 |
| Num. of bricks 11,3kg (25lbs) | 4 | - | - | - |
| Brick package ref. | 11072 | 11016 | 11016 | 11016 |

*Storage heater elements and convector element will never operate at the same time

ECOMBI, SAFETY AND SUSTAINABILITY

The ECOMBI System does not require servicing. It has no moving parts that can break or be worn down. Quick and easy installation, in new and old buildings alike, and there is no need for any type of alterations or building work.

Safety is always a key factor when choosing electric heating. The ECOMBI system is 100% safe. It does not need fuel tanks or hydraulic circuits to operate, and therefore there is no risk of leaks.

The ECOMBI System is environmental friendly.

It can be used with renewable energy sources coming from natural resources such as the sun or wind.

The ECOMBI System fosters a healthy and safe environment:

- Does not consume oxygen or emit CO₂.
- Does not produce gas or fumes.
- Does not directly pollute the environment while it is operating.

"It is our responsibility to take care of planet and its resources"





ELNUR HISTORY

ELNUR was founded in 1973 and since then, we have established ourselves as one of the leading European providers of the most efficient heating system in the world: electric heating.

With facilities spanning over 20,000 m², an extensive general and technical team and a complete range of products developed to meet the highest expectations of our customers. At **ELNUR** we provide you with the most efficient solutions in an ever-changing world.

40 years on, we maintain the same enthusiasm and commitment to offering a wide range of unique products which can cater to the varying needs of our customers, wherever in the world they may be.

With a commercial presence in more than 35 countries, and a strong exclusive distribution network in 15 of these, we have gained a presence in thousands of homes, always offering the best solution in electric heating.

Our greatest wish is for our customers to have the luxury of experiencing excellence by using **GABARRÓN** products, which are guaranteed to bring real warmth and comfort to your home.



“Let us invite you to meet **ELNUR** and experience the values and benefits that our **GABARRÓN** products will bring to your life.”



QUALITY

ELNUR is fully committed to quality. We therefore have complete control over the processes occurring in all areas of the company, which is certified by the official ISO 9001 standard.

Take for example, the rigorous control applied to each phase of the production process from initial design of the product, through the continuous assessment of suppliers and materials, to the monitoring of each stage in the manufacturing process and the final check of every single product which are tested one by one before packaging.

As a result, complete traceability is established for each of the products that we design and manufacture, and we guarantee our customers that every appliance leaving our factory is in full working order.

GABARRÓN products are uniquely designed and manufactured using high quality materials and components, which constitutes a significant advantage when it comes to providing an excellent level of performance and efficiency.

ELNUR holds various official certifications which guarantee compliance with quality and environmental standards.



INTERNATIONAL COMPANY CERTIFICATIONS



ISO 9001

ISO 9001: 2008 Quality Control Management System, which certifies the implementation and maintenance of the system through a cycle of continuous improvement in the performance of its procedures in all areas of the company, with the aim of achieving greater customer satisfaction..



ISO 14001

ISO 14001: 2004 Environmental Management System, which guarantees that our procedures are developed in accordance with environmental care and respect throughout the production process, from the design stage to the final stages of production.



Manufacturer



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