



**ecoforest**

*Naturally innovative*



ECOAIR+ PRO · ECOAIR+ EVI · AIR UNITS · HYBRIDISATION



## History

Ecoforest was founded in 1959 by Jose Carlos Alonso; his vision was to develop innovative products that were both economic and environmentally-friendly, with the intention of making the world a better place.

Today, more than 50 years later, Ecoforest is the technological leader in the heating sector, with solutions based solely on clean and natural energy.

Due to its strong commitment to technology and investment in R & D, Ecoforest has become market

leader in Europe. This is in part thanks to a markedly different strategy to other competitors, a strategy based on innovation and a strong commitment to both quality and the environment instead of cost cutting. Furthermore, a strong push towards internationalization and adapting the products to different climates has meant we've been able to quickly spread Ecoforest heatpumps around the world.



## Respect for the environment

Respect for and protection of the environment have become one of the great issues of our time.

| 3

To improve the environmental conditions of our planet for future generations, we must be aware of the negative effects of inadequate management of our natural resources and of the consequences that these entail to fight against climate change

The quality and environmental policy of Ecoforest mirrors our commitment to improve customer satisfaction and the preservation of the environment, through effective design and manufacturing of efficient, emission-free heating and air-conditioning equipment.



## ecoAIR+ technology

The Ecoforest monoblock heat pump has two types of technologies. ecoAIR+ PRO, a heat pump with inverter technology that uses propane as a refrigerant, thus being able to produce hot water at more than 70 ° C with great performance. ecoAIR+ EVI, a heat pump with Scroll + Inverter + EVI technology, which is capable of maintaining high performance and power even with extreme outdoor temperatures.



Quiet



Cost-efficient



Comfortable

4 |





Efficient

Remote  
controlCorrosion  
resistant

## Advantages of ecoAIR+ technology

- Large operation map: it functions in outside temperatures from  $-20^{\circ}\text{C}$  to  $50^{\circ}\text{C}$  without electrical support. Energy savings in any conditions
- DHW production at  $70^{\circ}\text{C}$  in the ecoAIR+ PRO range and up to  $60^{\circ}\text{C}$  in the ecoAIR+ EVI even with outside temperatures down to  $-15^{\circ}\text{C}$ . Keep comfort even on the coldest days.
- Possibility of working directly with radiators, making it an ideal replacement for boilers.
- The Dynamic Defrost Cycle (DDC) allows heat pumps to reverse the cycle without stopping the compressor. This innovation enables faster defrost cycles and increases the effective power delivered by ecoAIR+ heat pumps.



## ecoAIR+ PRO

ecoAIR+ PRO is the first monoblock air source heat pump that uses a natural refrigerant and has modulation ratios of up to 80%. The greenhouse effect associated with the use of propane gas as a refrigerant, is about 700 times less than that of the most common refrigerant gases in current equipments.

Thanks to the use of propane, it is possible to produce hot water with temperatures of over 70° C very efficiently, that is, temperatures very similar to those produced by inefficient gas or oil boilers. This facilitates its replacement without having to change the heating production system, even if they are old radiators.

## NATURALLY INNOVATIVE

### Technical data

Size: 1-7 kW / 1-9 kW / 3-12kW / 3-18 kW  
 Refrigerant: R290  
 Temperature range: -20°C to 55°C  
 COP: 5,2 / 5,0 / 4,8 / 5,1  
 Weight: 175 kg  
 Noise level: 35-57dB

- Modulating heat pump. Ecoforest technology with Inverter compressors, greater savings and comfort.
- Management of zones. Up to three different production temperatures, creating simpler and more versatile installations.
- Wide range of operation with heating possible in temperatures as low as -20°C and cooling possible in temperatures up to 55°C.
- Total control of your heat pump installation remotely through ecoSMART easynet from anywhere.
- Minimal noise emission.
- Pool management without the need for auxiliary elements.
- Service guaranteed under the most restrictive environmental conditions without activation of the electric heaters.
- Compact and simple installation without external modules for cooling production; Even the installation of buffer tanks can be avoided.
- Integral management of the entire installation: control of the collection and production circuits.
- DDC technology, exclusive defrosting technology.
- My Ecoforest, complete monitoring of your installation remotely.



# ecoAIR+ EVI

The ecoAIR+ EVI monoblock heat pump is able to meet all the needs of DHW, heating and cooling, using air as a source of energy.

Our R & D department has developed a unique and innovative product, with exclusive technology and Ecoforest software generating effective control strategies. The ecoAIR+ EVI heat pump can work in extreme weather conditions, maintaining levels of performance which are simply impossible for other traditional air source heat pumps.





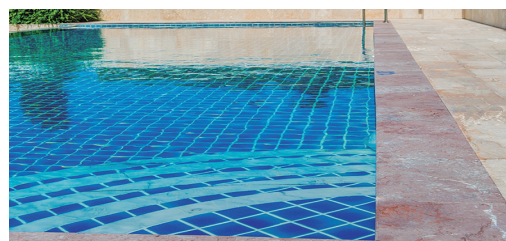
## THE POWER IS IN THE AIR

### Technical data



Size: 4-20 kW  
 Refrigerant: R-410A  
 Temperature range: -20°C to 55°C  
 COP: 5,0  
 Weight: 177 kg  
 Noise level: 35-63dB

- Modulating heat pump. Ecoforest technology with Inverter compressors, greater savings and comfort.
- Management of zones. Up to three different production temperatures, creating simpler and more versatile installations.
- Wide range of operation with heating possible in temperatures as low as -20°C and cooling possible in temperatures up to 55°C.
- Total control of the house remotely through ecoSMART easynet from anywhere with an internet connection.
- Minimal noise pollution
- Pool management without the need for auxiliary elements.
- Service guarantee under the most restrictive environmental conditions without activation of the electrical resistances.
- Compact and simple installation without external modules for cold production; Even the installation of inertial deposits can be avoided.
- Integral management of the entire installation: control of the collection and production circuits.
- DDC technology, exclusive defrosting technology
- My Ecoforest, complete monitoring of your installation remotely
- Compatible with the entire ecoSMART range.



## ecoAIR+ indoor modules

Flexibility. With the ecoAIR+ installations, you can choose how it will be your heat pump installation with different indoor units suitable for each case.

Ecoforest keeps increasing the range of indoor units for the ecoAIR models with 2 new variants for the ranges below 12 kW which integrate more elements in the technical room: HK-COMPACT-EH and HK-COMPACT-EH-S.

10 |



CM & HK & HK COMPACT indoor modules

CM

- Controller
- Display

HK-EH

- Controller
- Display
- DHW Valve
- Electric heater

HK-EH-S

- Controller
- Display
- DHW Valve
- Electric heater
- Heat exchanger
- Circulation pump

HK-COMPACT-EH

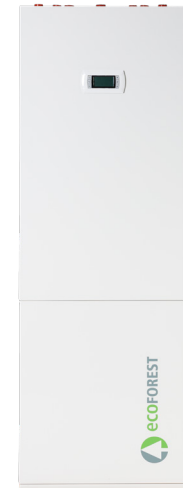
- Controller
- Display
- Filling valves
- Filters
- 3-way DHW valve
- Electrical heater - 3 x 1.3 kW
- Expansion vessel 12l
- Security valve
- 165 l stainless steel DHW tank

HK-COMPACT-EH-S

- Controller
- Display
- Filling valves
- Filter
- 3-way DHW valve
- Electrical heater- 3 x 1.3 kW
- Expansion vessel 8l (primary circuit)
- Expansion vessel 12l (secondary circuit)
- Safety valves
- Plate heat exchanger
- Circulation pump (secondary circuit)
- 165 l stainless steel DHW tank



HK



HK-COMPACT

# ecoGEO+ & AU

*A better way to use air source energy*



12 |



## What is the ecoGEO+ & AU?

The combination of our ecoGEO+ heat pumps and our outdoor air units (AU) is an entirely different way to make air source energy using the high performance and unique characteristics of our ecoGEO+ but in a more affordable way. This type of installation can substitute or complement the ground boreholes as energy source by one or several Air Units (AU).

In this way we get to use the energy of the air to produce DHW, heating and cooling. It should also be noted that with this type of air source energy we have access to the HTR technology of the ecoGEO+.

## Hybridisation

### **Why choosing between ground source and air source when you can get the best of both?**

At Ecoforest we offer the possibility of using different collection systems in the same installation with a heat pump. This means that it is possible to hybridise traditional ground source collection systems with our air units.

Create unique installations with the advantages of both systems, choosing at each moment the most efficient technology.



## AU

AU is a unique air source unit. Unlike all other products on the market, the AU can be used as a source for our ecoGEO+ heat pumps, replacing or even complementing the ground source collection (Ecoforest exclusive hybridisation) in installations where geothermal drilling is not possible or restricted.

### Technical data



Power: 6, 12 y 22 kW  
 Weight: 115 kg  
 Temper. range: -15 to 45°C  
 dB (A): 22 to 41

| 13



ecoGEO+ Compact



AU



14 |

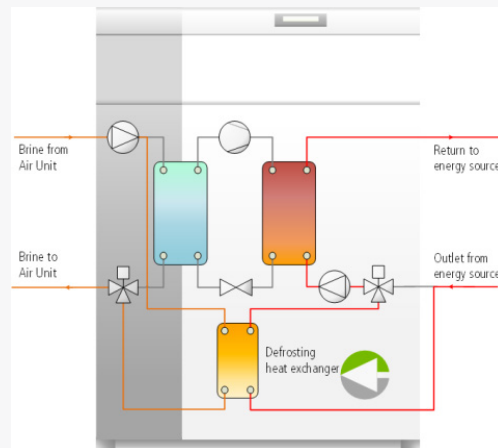
## AU benefits

- Being completely hydraulic, it's a much simpler installation
- It has exclusive defrosting technology
- The inside components in the module have longer life-span
- The compressor turns off during defrosts time, greatly increasing performance
- Significant reduction in the number of defrosts needed.
- Low external noise level
- No limitation of distance between the indoor and outdoor unit.
- The possibility of hybridising with geothermal and photovoltaic collection, using ecoSMART (patented technology) offers great versatility
- HTR technology (exclusive Ecoforest) that allows to produce heating / cooling and DHW / pool simultaneously.
- DHW temperatures up to 70° thanks to HTR technology

### *A unique defrost*

Exclusive defrost system which uses hot water to significantly increase the seasonal performance factor (SPF), as the compressor can stop during the process, and instead relies on the circulation pump.

The stops of the heat pump and the waiting times are completely avoided, since it is not necessary to invert the cycle or activate the electric heaters.



*AU,  
one of  
the better  
solutions  
on the  
market*



## e-source

The e-source is an electronic control specifically designed for ecoGEO<sup>+</sup> HP heat pumps.

With the ecoSMART e-source it's possible to manage up to four different sources of energy simultaneously. For the first time it's now possible to combine ecoGEO<sup>+</sup> HP heat pumps with external air source units, lowering the cost of the collection systems and allowing more versatile and efficient installations.



ecoSMART e-source



ecoGEO<sup>+</sup> HP



## All advantages of e-source

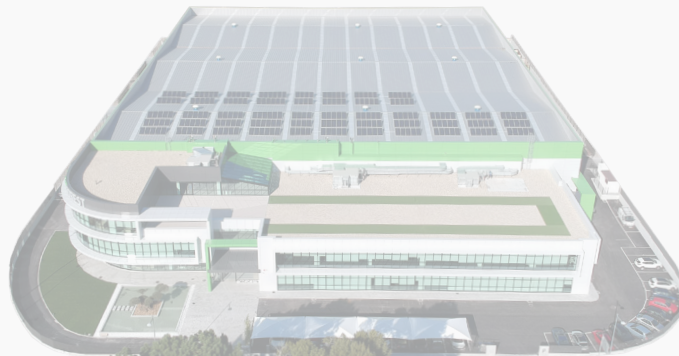
Thanks to e-source, the energy efficiency of the entire installation is considerably increased. Allowing users to combine up to four different sources of collection.

- Possibility of hybrid installations with ecoGEO<sup>+</sup> HP (High Power) heat pumps, combining several types of collection (ground source, air source, open loop, solar...).
- Defrost the aérothermal sources without using the compressor (greatly increasing the performance) and without the need to reverse the cycle (elimination of waiting times)
- Continuous operation, sequential defrosts when there is more than one air source.
- Great versatility: possibility to adapt to any budget by playing with the percentage to cover for each source of collection.

AU70



[www.ecoforest.com](http://www.ecoforest.com)



Parque Empresarial Porto do Molle · Rúa das Pontes 25 · 36350 Nigrán - Pontevedra. T.: +34 986 262 184

Ecoforest assumes no responsibility for any errors contained in this document, reserving the right to make at any time and without notice the modifications it deems appropriate for both technical and commercial reasons. The availability of the equipment will always be confirmed by Ecoforest. Their appearance in this document does not imply their immediate availability.