

# ecoGEO+ HP



## SERVICES



DHW



Heating



Cooling



Swimming Pool

## EMISSION SYSTEMS



Radiators

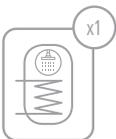


Fan coils

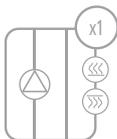


Underfloor heating and cooling

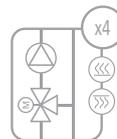
## MANAGEMENT OF PRODUCTION AREAS



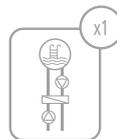
DHW Management



Management of 1 direct zone



Management of 4 mixed zones



Pool management

## WATER - WATER

# Inverter ground-source heat pumps

- | Inverter technology and Scroll compressor.
- | Power ranges: 12-40 kW / 15-70 kW / 20-85 kW.
- | Production of heating, active cooling, passive cooling, DHW and swimming pool.
- | Control via the Internet with the ecoSMART easynet kit.
- | Hybridisation with photovoltaic energy.
- | Simultaneous production of heating and cooling.
- | Hybridisation of collection sources with the ecoSMART e-source.
- | Three-phase power supply (400V).
- | Integrated energy and yield meters.
- | Control of external auxiliary equipment (gas boilers, heating elements, etc.).
- | **Variable speed compressor.**
- | DHW recirculation control.
- | **HTR technology** for DHW production, simultaneous production of services up to 70 °C without electrical support.

Features



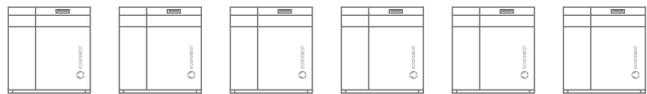
ecoGEO+ HP



MODELS



CASCADE



Simultaneous cooling and heating, the solution for high demands

The thermal needs of industrial, commercial and agricultural buildings present different energy demands than those of the residential sector. In many cases, such as hotels, fitness centres, spas, leisure centers or agricultural facilities, it is common to require simultaneous heating and cooling for a large part of the year. For these cases, a total heat recovery system with simultaneous production is the ideal solution. For this reason, Ecoforest has developed an exclusive technology for the efficient management of this type of installation.

The ecoGEO+ HP heat pumps are designed to handle these complex demands. Thanks to Ecoforest's advanced control strategies and their high modulation capacity, ecoGEO+ HP heat pumps can adapt their thermal power in real time, prioritising the most important demand at any given moment, and use ground-source collection in a modulated way, either as an energy source (heating mode) or as a dissipation system (cooling mode), to maintain an optimal thermal balance in any operating condition.



# Ground-source solutions

## ecoGEO+ Basic and Compact



*Simplicity and versatility*

The ecoGEO+ Basic units can be installed with an external hot water tank, so the size can be chosen according to the needs of each installation. Circulation pumps, expansion vessels, safety valves and the three-way DHW valve are integrated into the unit, making installation very simple and compact.

This diagram corresponds to an installation in which the required services are domestic hot water and heating or cooling in a single circuit. Since the heat pump includes the circulators, it is not necessary to add a buffer tank and no additional hydraulic elements are required.



*The most compact complete system*

The ecoGEO+ Compact units incorporate a 165-litre stainless steel hot water tank.

A complete four-zone heating and cooling installation, which would be very complex with other heat pumps, turns out to be very simple and easy to install. The ecoGEO+ Compact pumps avoid the installation of a buffer tank thanks to their high modulation capacity. In addition, the heat pump is also able to manage the heating of the pool.



*Smart cascade management*

The ecoGEO+ Basic and ecoGEO+ Compact heat pumps can be installed in cascade of up to 3 units in parallel, reaching a total modulating capacity between 5 kW and 66 kW in a single installation. This does not require any additional control devices because the cascade management is integrated in the control strategies included in the Ecoforest software. These control strategies for cascade installations

have several advantages, as the system accurately tracks the operating hours of each cascade unit to extend its lifetime and prioritises its operation at part loads to optimise its performance at all times. In addition, the management capacity is multiplied by the number of units that make up the cascade, resulting in installations capable of meeting any demand.

# Ground-source solutions

## ecoGEO+ HP



*The ideal solution for a classic installation*



*Simultaneous production*

### *Cascade and simultaneous production*

ecoGEO+ HP heat pumps can be installed in cascades of up to 6 units in parallel. This management capability is possible thanks to the use of the ecoSMART Supervisor manager, which allows an equal distribution of the operating hours of each unit in the cascade, optimising the life and efficiency of the system by seeking partial load operation of all heat pumps.

In addition, these heat pumps can manage heat recovery installations, simultaneous production of heat and cooling,

with unique performance thanks to the exclusive control strategies developed by Ecoforest.

These two features make the ecoGEO+ HP ideal for installations where heating and cooling needs often occur simultaneously and represent a significant thermal power. In addition, the management capacity of the ecoGEO+ HP heat pumps is multiplied by the number of units that are part of the cascade, making this system more complete also in terms of control of the installation and its elements.

