

ecoGEO⁺

Ground source heat pumps



ecoGEO⁺

Inverter ground source, the most efficient technology

The ecoGEO⁺ range is the Ecoforest range of ground source heat pumps. These heat pumps, both domestic and high power, are compatible with any of the type of ground source collection system, even with hybrid air source-ground source collection systems and fully air source collection systems. Likewise, they are also capable of offering all the services required in a HVAC system in an integrated way: DHW, Heating, Pool heating, Passive Cooling (or Free Cooling) and Active Cooling.



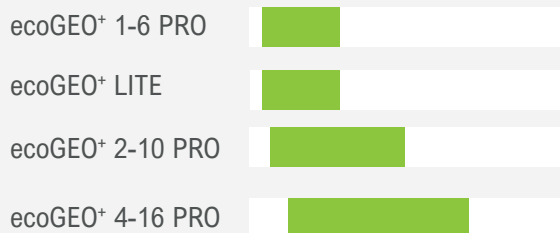
All ecoGEO⁺ heat pumps make use of Inverter technology, which allows them to modulate their power in order to adapt to the thermal demands of the installation with the highest efficiency. This translates into a very considerable reduction in electrical consumption and great savings. Thanks to the technology and control strategies developed by Ecoforest, the installation of ecoGEO⁺ heat pumps also becomes much simpler, more compact and cheaper than those of other heat pumps on the market, since it allows to dispense with certain components that would be necessary in traditional heat pump installations.

ecoGEO+ PRO Basic / Compact

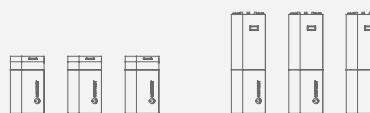
Residential range



Power ranges



Cascade



Services



DHW



Heating



Cooling



Pool

Models

ecoGEO+ B1/C1

DHW
Heating
Pool

ecoGEO+ B2/C2

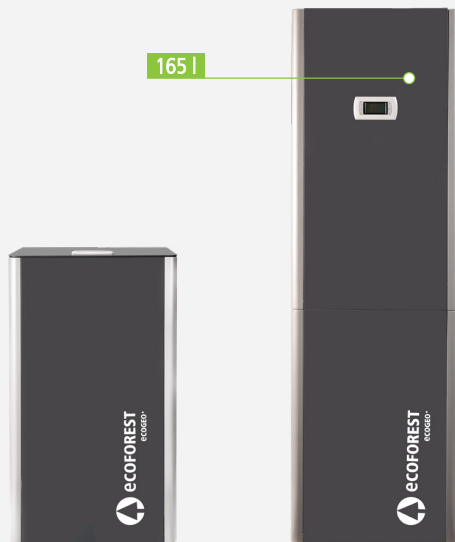
DHW
Heating
Pool
Free Cooling

ecoGEO+ B3/C3

DHW
Heating
Pool
Active Cooling

ecoGEO+ B4/C4

DHW
Heating
Pool
Free Cooling
Active Cooling



- Inverter technology
- Power ranges: 1-6 kW / 2-10 kW / 4-16 kW
- Domestic hot water production
- Heating and pool production
- Integrated active cooling production
- Integrated passive (free) cooling production
- Internet connection through the ecoSMART Easynet
- Integrated photovoltaic hybridisation
- HTR technology for DHW production up to 75°C and simultaneous production of several services
- Natural refrigerant R290
- Integrated cascade management up to 3 units
- Single-phase (230V) or three-phase (400V) power supply

Collection system



Ground



Open loop



Air



Hybrid



ecoGEO+ B/C 4-16 PRO



- Modulating thermal power control within a wide range (15-100%) and modulating flow rate control of both brine and production circuits (20-100%).
- Natural refrigerant R290 : GWP 3.
- Inverter technology.
- Compact design including brine and production circulation pumps, brine and production expansion vessels (8l and 12l respectively), brine and production safety valves and DHW three-way valve.
- Integrated management of up to 4 different emission temperatures, 2 buffer tanks (heating and cooling), 1 DHW tank, 1 pool and hourly control of DHW recirculation.
- Integrated management of air source collection modulating units, in case of air source or hybrid configurations.
- Integrated management of external On/Off or modulating auxiliary systems, such as electrical heaters, On/Off boilers or modulating boilers.
- Integrated free cooling in models 2 and 4.
- Integrated active cooling in models 3 and 4.
- Single-phase (230V) and three-phase (400V) version available.
- Integrated photovoltaic hybridisation.
- Integrated energy meters to measure the electrical consumption, the heating/cooling thermal power, the COP and the monthly and annual SPF.

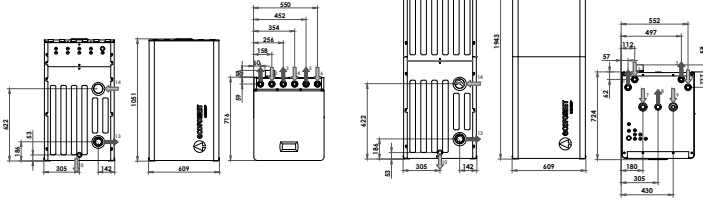
SPECIFICATIONS ecoGEO+ B/C 4-16 PRO		UNITS	B1/C1	B2/C2	B3/C3	B4/C4
APPLICATION	Place of installation	-	Indoors			
	Type of brine system ¹	-	Ground source / Air source / Hybrid source			
	DHW, Heating and Pool	-	✓	✓	✓	✓
	High Temperature Recovery (HTR) system option ¹¹	-	✓	✓	✓	✓
	Integrated Active cooling	-	-	-	✓	✓
	Integrated Passive cooling	-	-	✓	-	✓
PERFORMANCE	Modulation range of the compressor	%	15 to 100			
	Heating power output ² , B0W35	kW	3,1 to 16,1			
	COP ² , B0W35	-	4,6			
	Active cooling power output ² , B35W7	kW	-	2,2 to 13,8		
	EER ² , B35W7	-	-	3,7		
	Max. DHW temperature without / with support ⁵	°C	70 / 80			
	Noise power emission level ⁶	db	35 to 46			
	Energy label / rjs / SCOP W35 average climate control	-	A+++ / 190% / 4,85			
	Energy label / rjs / SCOP W55 average climate control	-	A++ / 146% / 3,84			
	OPERATION LIMITS	Distribution / Set heating outlet temperature range	°C	10 to 70 / 70		
Distribution / Set cooling outlet temperature range		°C	-20 to 35 / -15	5 to 35 / 7		
Brine inlet temperature range in heating applications		°C	-25 to 35			
Brine inlet temperature range in cooling applications		°C	10 to 70			
Minimum / Maximum refrigerant circuit pressure		bar	1 / 32			
Production / Pre-load circuit pressure		bar	0,5 to 3,0 / 1,5			
Brine / Pre-load circuit pressure		bar	0,5 to 3,0 / 0,7			
Volume / Max. DHW storage tank pressure (ecoGEO+ C)		l / bar	165 / 8			
WORKING FLUIDS	R290 Refrigerant load	kg	0,86			
	Compressor oil type / load	kg	HXL4467 / 1,18			
CONTROL ELECTRICAL DATA	1/N/PE 230 V / 50-60 Hz ⁸	-	✓			
	Maximum recommended external protection ⁹	-	C16A			
	Transformer primary circuit fuse	A	0,5			
	Transformer secondary circuit fuse	A	2,5			
ELECTRICAL DATA: SINGLE-PHASE	1/N/PE 230 V / 50-60 Hz ⁸	-	✓			
	Maximum recommended external protection ⁹	-	C32A			
	Maximum consumption ² , B0W35	kW / A	4,4 / 19,2			
	Maximum consumption ² , B0W35	kW / A	5,5 / 23,9			
	Minimum / Maximum starting current ⁷	A	2,6 / 12,5			
	Correction of cosine Ø	-	0,96 / 1			
ELECTRICAL DATA: THREE-PHASE	3/N/PE 400 V / 50-60 Hz ⁸	-	✓			
	Maximum recommended external protection ⁹	-	C13A			
	Maximum consumption ² , B0W35	kW / A	4,4 / 6,4			
	Maximum consumption ² , B0W35	kW / A	5,5 / 7,9			
	Minimum / Maximum starting current ⁷	A	0,9 / 4,2			
	Correction of cosine Ø	-	0,96 / 1			
DIMENSIONS/WEIGHT	Height x width x depth	mm	ecoGEO+ B: 1051x609x716 · ecoGEO+ C: 1943x609x724			
	Empty weight (without assembly)	kg	B 195 · C 260	B 205 · C 270	B 195 · C 260	B 205 · C 270

- Air source by replacing the ground source circuit by one or more ecoGEO+ AU air units. Consult the ecoGEO+ AU aérothermal units manual for more detailed information.
- In compliance with EN 14511, this includes the consumption of the circulation pumps and the compressor driver.
- Considering brine and production flow rates in compliance with EN 14511.
- Considering a heat slope from 20°C to 50°C in absence of consumption.
- Considering support provided by the emergency electrical heater.
- In compliance with EN 12102.
- Starting current depends on the working conditions of the hydraulic circuits.
- The admissible voltage range for proper operation of the heat pump is ±10%.
- Maximum consumption can vary significantly according to working conditions, or if the compressor's operation range is restricted. Consult the technical service manual for more detailed information.
- Certification in process.
- Integrated by default in modules B3/C3 and B4/C4.

Dimensions and hydraulic connections

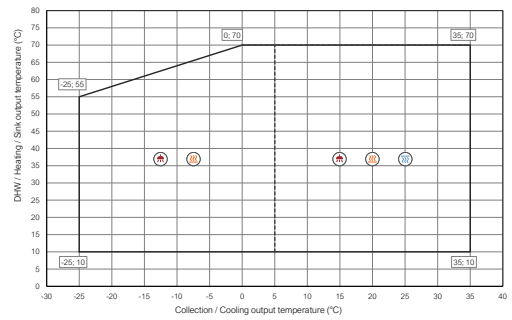
ecoGEO+ B

ecoGEO+ C

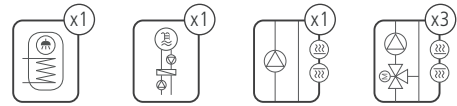


1. Heating/Cooling Outlet - 1 1/4" M
2. Heating/Cooling Inlet - 1 1/4" M
3. Brine Outlet - 1 1/4" M
4. Brine Inlet - 1 1/4" M
5. DHW system Outlet - 1 1/4" M
6. DHW System Inlet - 1 1/4" M
7. CW Inlet - 1" F
8. DHW Outlet - 1" F
9. DHW Recirculation Inlet - 3/4" F
10. Drain - 16 mm
11. Safety duct outlet - Ø80
12. Safety duct inlet - Ø80

Operational chart

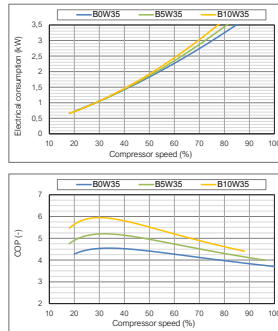
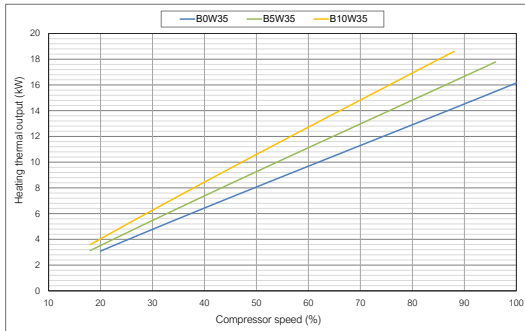


Installation management



Performance curves

Thermal performance



Hydraulic performance

