

Superheating ground source heat pump  
Geopro SH

Ground is warm, with Geopro you enjoy it



*Geopro*

## Environmentally friendly heat energy is stored in our ground

In one way or another, we all live in and depend on the natural environment. We must take collective responsibility for it. If our generation takes care of nature, future generations will also have the opportunity to live in the same manner that we have been able to enjoy. Have you considered how you are able to conserve the environment?

Zero-emission solar energy is stored in the ground. This free energy will warm your property in an eco-friendly way with the help of a ground source heat pump.

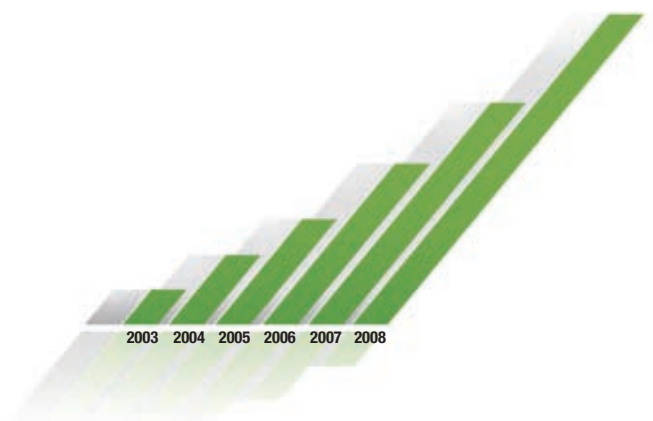


### An environmentally friendly way to heat

With the help of a ground source heat pump, we can make good use of the clean solar energy stored in the ground, in rock and in water system. The solar energy stored is collected through heat collector piping, forming the energy source for the ground source heat pump. Geothermal heat is trouble-free, safe and low-cost for those using it. The investment in such a system pays for itself quickly thanks to the low running costs.



The popularity of heat pumps has grown at an ever increasing rate this millennium. Their popularity is based on their energy efficiency and eco-friendliness. We can predict that the popularity of heat pumps will only rise when compared to other forms of energy.



Designed for ease of use

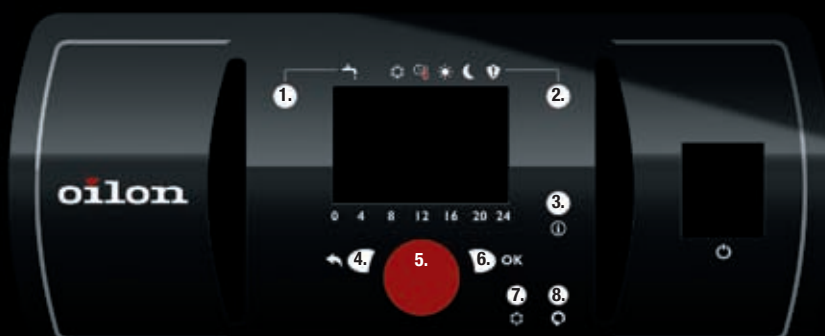


## Stylish functionality

In the new Oilon Geopro SH superheating ground source heat pump, energy efficiency, ease of use and style are combined. The styling is simple but functional. The heat pump is pearl-grey in colour.

## Automated convenience at home

The Geopro SH ground source heat pump's user-friendly control automation ensures optimal convenience, so you can leave it to completely take care of the heating of your home. The versatility of the automation ensures that other energy sources, such as solar-energy collectors, can also be combined to form a functional entity. The unit will automatically select the energy option that is generated in the cheapest way at any given time. It is possible to connect a wireless remote-control panel to the system, so that the unit can be controlled from your living area.



1. Domestic hot water -button  
Domestic hot water heating connection

2. Heating mode selection

- Automatic
- Comfort setpoint
- Reduced setpoint
- Frost protection setpoint

3. Info-button  
Displays measurement results and failures

4. Back-button  
Completes changes to settings and returns from the menu

5. Adjusting wheel  
Changes temperature settings, scroll through menus

6. OK-button  
Selection and acceptance

7. Cooling-button

8. Reset-button  
For resetting faults, etc.

## The most important features are underneath the surface

The Oilon Geopro SH superheating ground source heat pump has been built to last and provide energy with low costs. The pump's unique superheating technology ensures that there is enough heat and hot domestic water.

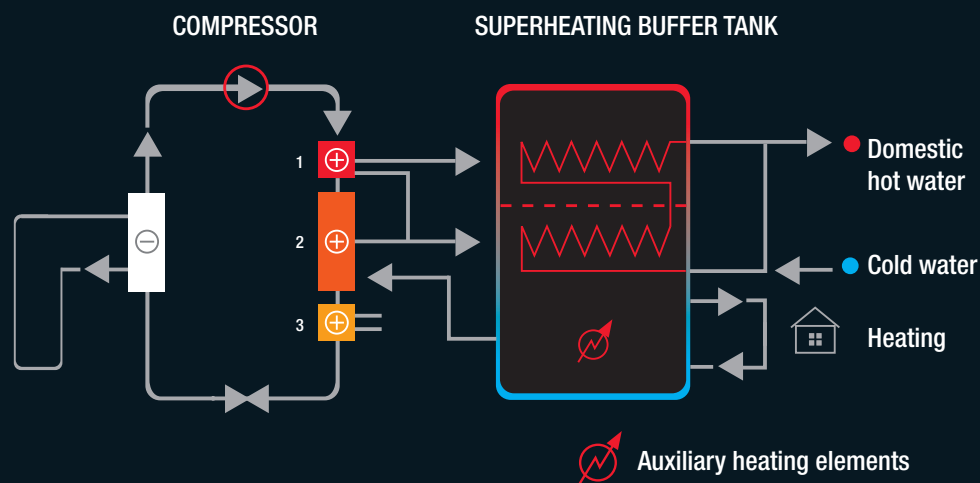
In new buildings, a superheating ground source heat pump is particularly well suited to situations where there is high consumption of domestic water. The SH model is excellent in renovations where radiator heating is used and high water temperatures are needed for heating.

Thanks to unique superheating technology, heat can be transferred to wherever it is needed the most. A subcooler can be connected to the Geopro ground source heat pump and used to heat a low-temperature area, such as a garage or storage area for example, or keep outside steps free of ice, for instance. The use of a subcooler is worthwhile because it does not increase the need to use a compressor. Thus, free residual heat is available to you.

### Operation of the superheating ground source heat pump

The use of ground source heat is based on evaporation of refrigerant circulating in the machines and the raising of its temperature with the help of a compressor. Heat energy is collected from the ground or water system using heat collector piping. Using active superheating technology, high water temperatures (as high as +80 °C) are produced without electric heaters, so heat is stored in a buffer tank optimally in layers. When domestic hot water is not needed or there is sufficient domestic hot water, superheating energy is channelled into the heating network.

The Geopro SH superheating ground source heat pump is always connected to a separate buffer tank. The automatic system controls the superheating flow, which is split into two after the condenser. The majority of the flow is returned from the condenser back to the central part of the buffer tank, and a small flow is directed through the superheating heat exchanger to the upper part of the buffer tank.



- 1) Superheater (heat recovery 20%)
- 2) Condenser (heat recovery 75%)
- 3) Subcooler, accessory (heat recovery 5%)

### Ground source heat pump sizing

The ground source heat pump can be sized up to full capacity or a partial capacity. On partial capacity, the maximum capacity of the heat pump is sized up to correspond around 60–80% of a building's heating requirements. Thus, in practice, the pump will provide 85–98% of the annual energy requirements. On partial capacity sizing, the heat pump works

for long periods during the heating period, and this reduces the number of times that the compressor is started up and shut down. This saves electricity and conserves the compressor without a reduction in the coefficient of performance. On the full capacity sizing, the ground source heat pump is sized up according to the maximum capacity requirements of the building, and in practice slightly higher.

The automatics ensures the best possible energy efficiency and comfort in all circumstances.

All the pump fuses and switches are assembled under a protective cover in the top part of the unit. The electrical connection can be made from the top-right or top-left corner of the unit.

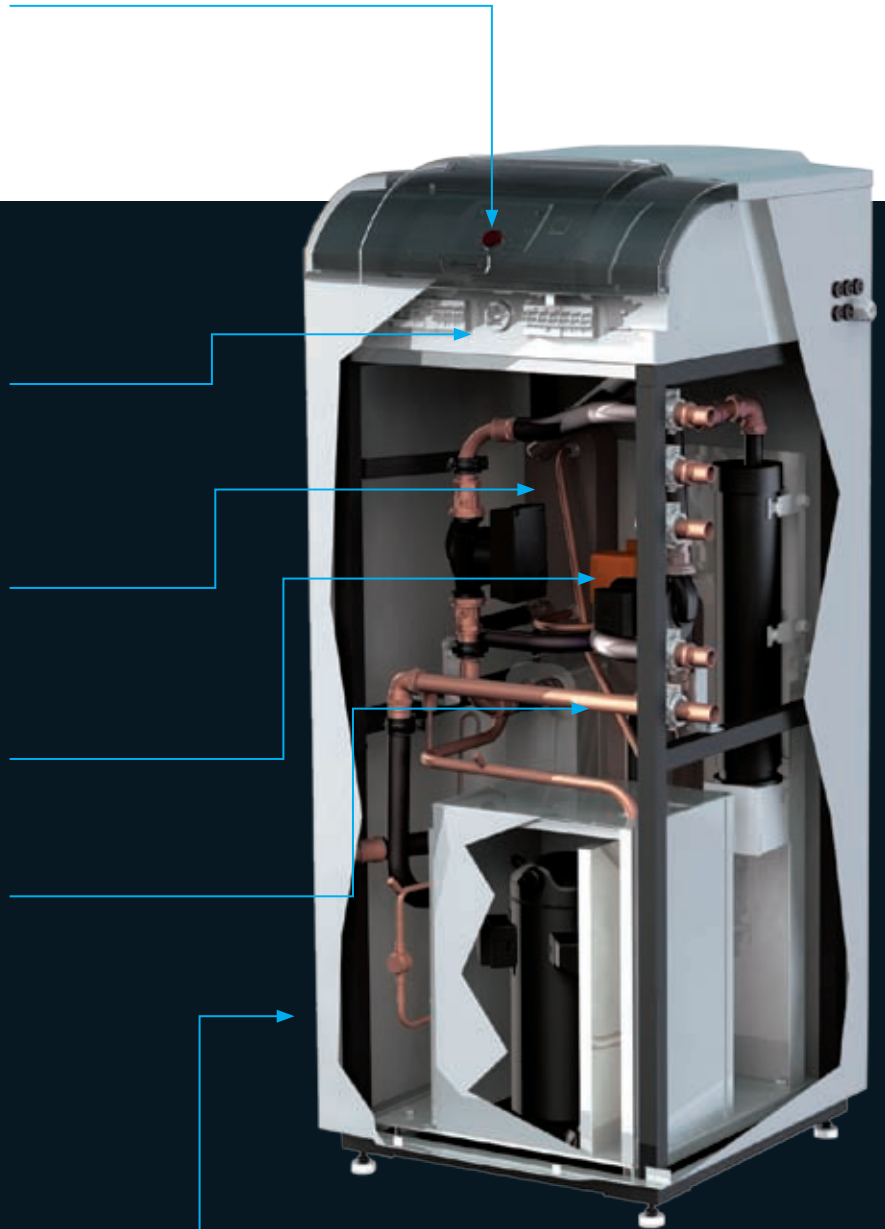
The superheater recovers maximum heat from the hot gas generated by the compressor and uses this to heat the domestic hot water.

A three-way valve and actuator control the superheating flow.

The Geopro SH can be connected to the ground collector piping from the right (standard) or the left.

High-quality components and workmanship guarantee reliable and quiet operation.

Manufactured in Finland. The Oilon Geopro has been designed, styled and manufactured in Finland. So, it goes without saying that you can rely on it for quality.



## Completely renewed Geopro SH superheating ground source heat pump

New more efficient compressors, larger exchangers and A-energy class ground circulation pumps along with modern design make the new SH model completely reborn.

Our expert partners will select, sell, install and service your geothermal heat system reliably. Please contact [info@oilon.com](mailto:info@oilon.com)

### TECHNICAL DATA

Ground source heat pump Geopro SH		7	9	11	13	16	20	28
Heat output*	kW	7,5	9,4	11,0	13,3	16,0	20,2	27,7
Input power of the compressor	kW	1,7	2,1	2,4	2,9	3,5	4,8	6,4
COP*		4,3	4,4	4,5	4,5	4,5	4,1	4,3
Fuses**	A	10/20	16/25	16/25	16/35	20/35	25/35	35/50
Electrical connection		3/N/PE 400 V 50 Hz						
Dimensions	mm	Height 1450, width 600, depth 650						

Colour: pearl grey

The Geopro SH superheating ground source heat pump is connected to a separate superheating buffer tank designed for an SH pump. In renovation projects, an old, existing buffer tank can also be used if necessary.

\* Heat output as specified by EN 14511 B0/35.

\*\* On a lower-value with full capacity sizing, inhibited by the internal electrical resistance of the ground source heat pump.

Buffer tank Geopro SHAK		Round superheating buffer tank				
Volume	Litres	500	700	1000	1500	2000
Measurements	ø mm x height mm	810x1550	810x2050	1050x2150	1250x2200	1400x2200
Buffer tank Geopro SHB		Superheating buffer tank				
Volume	Litres	500				
Measurements	mm, h x w x d	1900x700x700				

Oilon has already been designing and producing heating systems for both large power plants and detached houses for 50 years.

Oilon units are used to heat more than 300,000 detached houses in Finland.

Oilon is constantly developing new innovations, so that environmentally friendly heating solutions are also affordable.



### OILON HOME OY

P.O. Box 5, 15801 Lahti, Finland

Street address: Tarmontie 4, 15860 Hollola, Finland

Tel. +358 3 85 761, fax +358 3 857 6239, [info@oilon.com](mailto:info@oilon.com)