



Geothermal Heat Pumps



High Temperature Geothermal Heat Pump



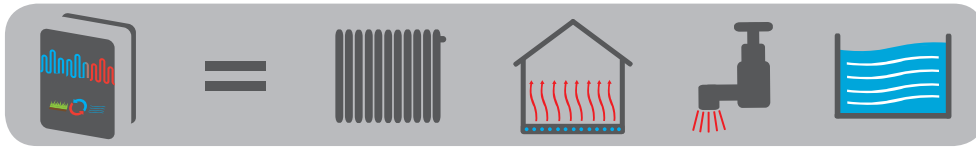
- Use the earth's natural energy to heat and cool your home
- Very low running costs
- The systems work on a rate of at least 4:1, so for one unit of electricity you will get 4 units of energy in any weather conditions
- No outside fan unit
- Silent operation



Central Heating
NEW ZEALAND

LIVE LIKE IT'S
SUMMER
ALL YEAR ROUND

Geothermal Heat Pumps



How does a DeLonghi Geothermal Heat Pump heat my house?

These systems rely on the fact that the earth stays warm underground throughout the winter. The warmth is extracted either using a long coiled pipe buried 2m below the surface, or directly from well water. A heat pump linked to the coil boosts the temperature so that it can be used to heat water which is transferred through the home for underfloor or radiator heating, and domestic hot water. The system can be reversed for cooling in the summer by pumping heat from the house and dumping it underground.

Because the temperature underground is relatively constant the heat pumps always have a high co-efficient of performance (COP), greater than 4:1, which means for every 1 kWh of electricity used, 4 kWh of heat are produced for heating the house or hot water. Transferring heat in this way is very efficient and silent; to transfer the same amount of heat as you can pumping 1 litre of water you would have to pump 1700 litres of air.

The very latest heating technology. Geothermal, or ground source heat pumps, are very efficient, providing low running costs, whatever the weather.

Good for the local and global environment

As the ground is heated by solar energy, and the heat pumps have a high COP, the running costs and resultant CO2 emissions are very low.

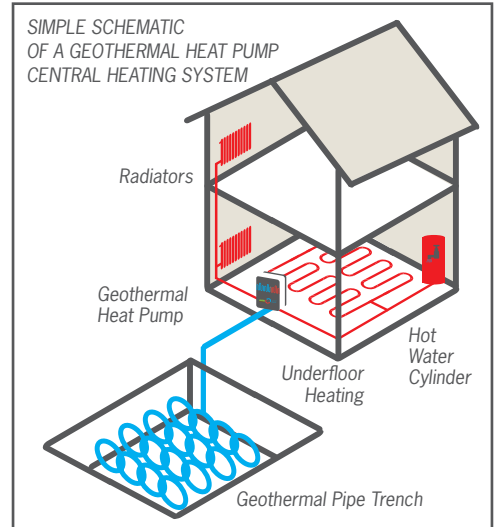
Since the heat source for the heat pump is either pipes or well water hidden underground, there is no need for any external equipment such as fan units or fuel tanks. This means it is very quiet in operation and visually unobtrusive.

Because the ground coil is buried to a depth of 2m it is possible to plant trees and use the land above the coil.

Water is used in the ground loop pipes (which have a 50 year life expectancy), so there is no danger of refrigerants leaking into the ground.

System Options

Ground source heat pumps come either as medium temperature, or high temperature. Only the high temperature models can be used with radiators. On some models the heat dumped during summer cooling can be used to heat domestic hot water, making this process highly efficient. All geothermal heat pumps include a circulating pump for the heating, and may also include pressure relief valves, expansion tanks and other components depending on system configuration. The systems are custom designed for each application. All geothermal

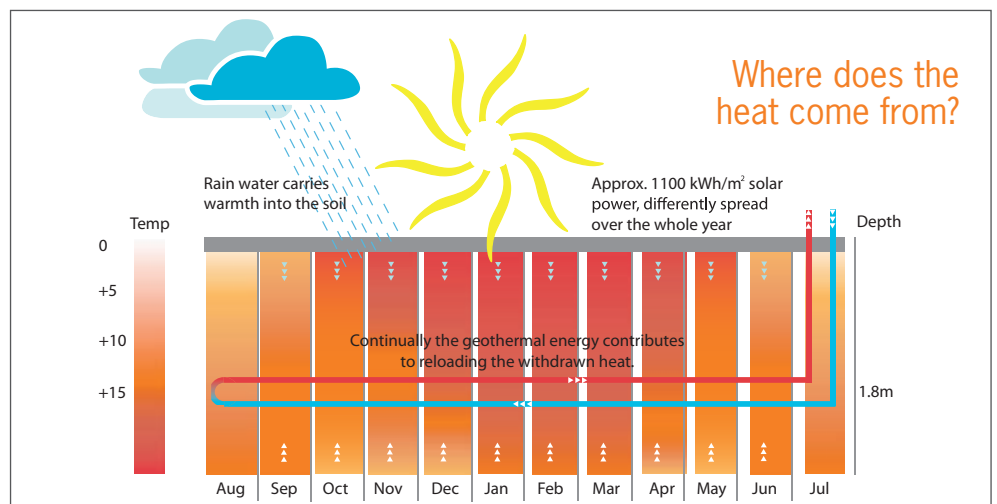


heatpumps are on indent order only. Larger heat output models require 3-phase electricity.

Models Available

Medium Temperature Geothermal Heat Pumps
Providing heat up to 55C, suitable for underfloor heating, domestic hot water and swimming pools. Available in 5.4kW to 33.3kw output.

High Temperature Geothermal Heat Pumps
Providing heat up to 60C, used with radiators and/or underfloor heating, domestic hot water and swimming pools etc. Available from 6kW to 35kW heat output.



Systems supplied by:

The company named above is an approved supplier and/or installer of Central Heating New Zealand products.



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