

Isn't it time **You**
were **comfortable?**



NORTHERN
HEAT PUMP

NorthStar Series





What is a Geothermal System?

A geothermal system consists of a ground source heat exchanger (open or closed loop), a distribution system (forced air, hydronic, etc), and a geothermal heat pump. The heat pump uses “free” earth energy to heat, cool, and provide hot water to homes and other buildings.

How Does It Work?

A ground source heat pump system uses the process of extracting (heating mode) or rejecting (cooling mode) heat energy below ground. This is done either by circulating a closed loop fluid through the ground or by using ground source water that is stored below ground level where stable temperatures exist.

The ground source heat pump system then efficiently processes this heat energy by using a closed refrigeration circuit to heat or cool indoor environmental spaces to create year-round comfort. It may also be used for industrial applications. Ground source heat pumps rely on natural renewable energies to function. They are not dependent on combustion energies which harm our environment.



Low Environmental Impact

Benefits to the Environment:

Geothermal Systems use a renewable energy resource instead of further polluting our environment by using non-renewable resources such as propane, oil, or natural gas. They are highly efficient and draw far less energy than conventional systems thereby creating a much smaller carbon footprint.

Geothermal systems eliminate the need of fossil fuels to produce heat energy required by conventional systems; which means no production of greenhouse gases.



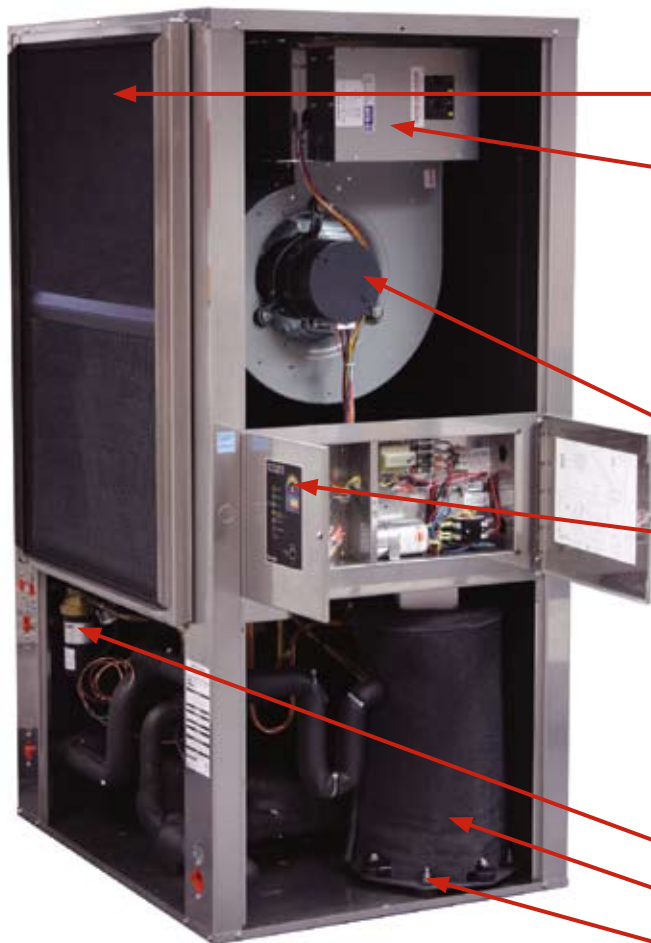
Geothermal systems are a proven technology that is actively providing heating and cooling in millions of households and many commercial projects.

Geothermal Systems are Clean, Comfortable, Safe & Efficient!



NHP Features and Benefits:

- 100% stainless steel insulated cabinet
- Removable side panels
- Warranty
 - Cabinet - Lifetime
 - Refrigeration - 10 years from date of sale
 - Controls - 3 years from date of sale
- 24/7 on-call emergency technical support
- R-410A
- 208V/230V single phase
- CSA listed
- Field convertible for left or right connections (standard configuration is left return)



- Electrostatic washable air filter
- Optional features
 - Integrated or field installable strip heat, 5kW-20kW available
 - Cupronickel source or load heat exchangers
 - 208V three phase
 - Double wall heat exchanger for on-demand domestic hot water
- ECM blower motor
- Exclusive Control Module **EZGEO**
 - Dual fuel control (load control)
 - Indicator lights
 - 4-wire conventional thermostat connections
 - Energy control selector switch (for systems with gas backup)
- Desuperheater with integrated circulating pump
- Compressor blanket
- Dual isolated compressor mounting for ultra-quiet operation

All Season Comfort

Geothermal Heat Pump Systems provide indoor heating and cooling through comfortable distribution systems such as:

- Forced air
- Radiant floor
- Domestic hot water heating
- A variety of other applications

Combined with easy to read control systems, maintaining a relaxing and comfortable environment year round couldn't be easier!

Product Offerings

WATER TO AIR

Comfortably provides heating or cooling through forced air distribution systems (ductwork). These units employ a single or 2-stage compressor using environmental friendly R410A refrigerant.

WATER TO AIR SPLIT

Great for retrofitting existing forced air systems or for new installations that require gas backup. Our split models employ a 2-stage compressor for even greater system efficiencies.

WATER TO WATER

These units efficiently heat or cool water for hydronic applications such as fan coils, radiant in floor heating systems, radiators, pools, domestic hot water heating, etc.

WATER TO AIR COMBINATION

This unit combines the functional performance of both water to air and water to water into a single cabinet unit. This provides an economical system to cover most common applications; forced air heating or cooling along with in-floor radiant. These units employ a 2-stage compressor.

Please visit www.northernheatpump.com for more information.



using the earth's ability to store heat, a geothermal pump uses 70% less energy than other systems

ANNUAL ENERGY COST COMPARISON*						
50,000 BTU/H, 8000 Degree Days						
\$3000						
\$2500				\$2,825	\$2,692	
\$2000			\$2,354			
\$1500						
\$1000		\$1,185	\$1,294			
\$500						
\$0	\$355					
	Geo Thermal Heat Pump 400% @ 5°	Electric Resistance 100% @ 5°	Natural Gas 75% @ \$1.20	Propane 90% @ \$2.40	Propane 75% @ \$2.40	Fuel Oil 65% @ \$3.00

* Calculated values based on heating only. Please visit www.northernheatpump.com for a more detailed analysis of your homes potential heating and cooling costs.

NORTHERN HEAT PUMP

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