



G E O T H E R M A L H E A T P U M P S

HEATING | COOLING | HOT WATER

www.geostar-geo.com



AFFORDABLE RENEWABLE CLEAN



MAGNOLIA SERIES

WHAT IS GEOTHERMAL?

Geothermal units are similar to ordinary heat pumps but use the solar energy stored just below our feet to provide heating, air conditioning and hot water. The earth acts as a giant solar panel, absorbing roughly half of the sun's heat energy. A series of pipes called a "loop" (see next page for more) is buried just below the frost line to tap into that stored energy. In the winter,

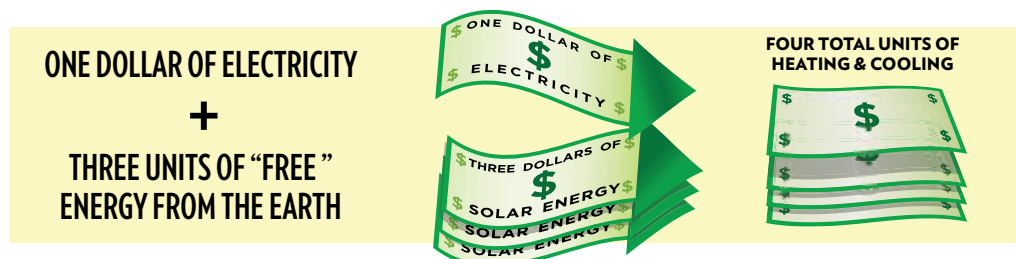
heat is brought in through the loop, concentrated, and delivered throughout your home. During summer, the excess heat in your home is removed and delivered back to the earth, completing the cycle. Because geothermal units use the earth's natural heat, they are among the most efficient and comfortable heating and cooling technologies currently available.



GEOSTAR BENEFITS

Thanks to the unique way geothermal units operate, they provide a host of exciting benefits to you and our environment.

AMAZING ENERGY EFFICIENCY: Geothermal heat pumps don't create energy, they simply move it. Only a small amount of electricity is used to circulate heat to and from your home. This allows GeoStar units to provide \$4 of heating for every \$1 worth of electricity used, while current "high-efficiency" fossil fuel furnaces provide only 96c. Our units are 4 times more efficient than any conventional furnace!



COST EFFECTIVENESS: Though geothermal systems can be more expensive to purchase up front, the cost difference will be returned through drastically lower energy bills. Most GeoStar owners see savings up to 60% on their utility bills!

GREATER COMFORT: GeoStar units run only at the level needed by using variable speed motors. They slowly ramp up to speed rather than "roaring" to life like traditional units - resulting in even, consistent comfort. You won't experience the large temperature fluctuations associated with other heating and cooling solutions.

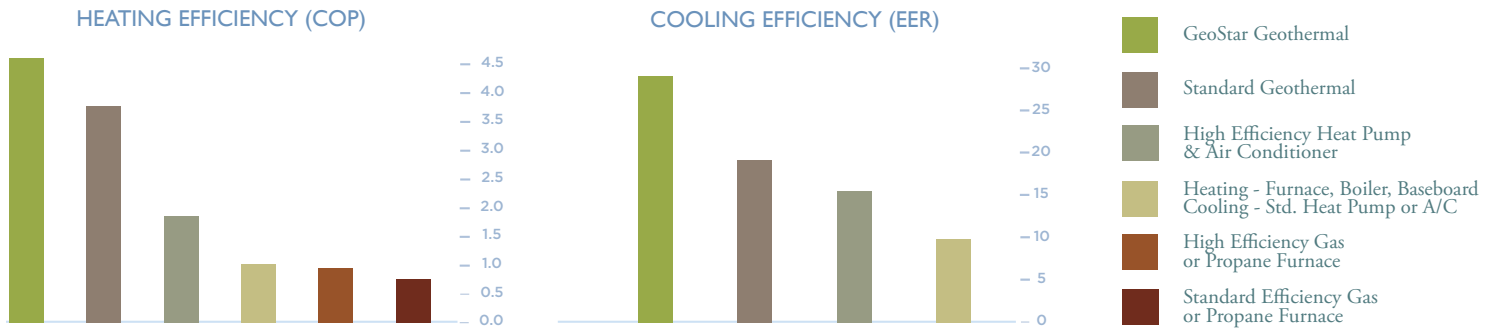
QUIET: With our units, there's no noisy outdoor equipment to disturb the peace or clutter your yard. Some homeowners have reported checking the unit to see if it's running.

LONGER LIFE AND RELIABILITY: Because GeoStar units don't require any outdoor equipment, they are protected from the rain, snow, environmental contaminants and abuse that hinders the efficiency of traditional air conditioners and heat pumps.

ENVIRONMENTALLY FRIENDLY: Geothermal units don't burn any fossil fuels or create carbon monoxide. This reduces our dependence on foreign oil while it works to reduce greenhouse gas emissions. One GeoStar geothermal unit is the environmental equivalent of taking two cars off the road forever. In fact, the Environmental Protection Agency (EPA) says geothermal heat pumps are the most environmentally friendly and cost effective way to condition our homes.

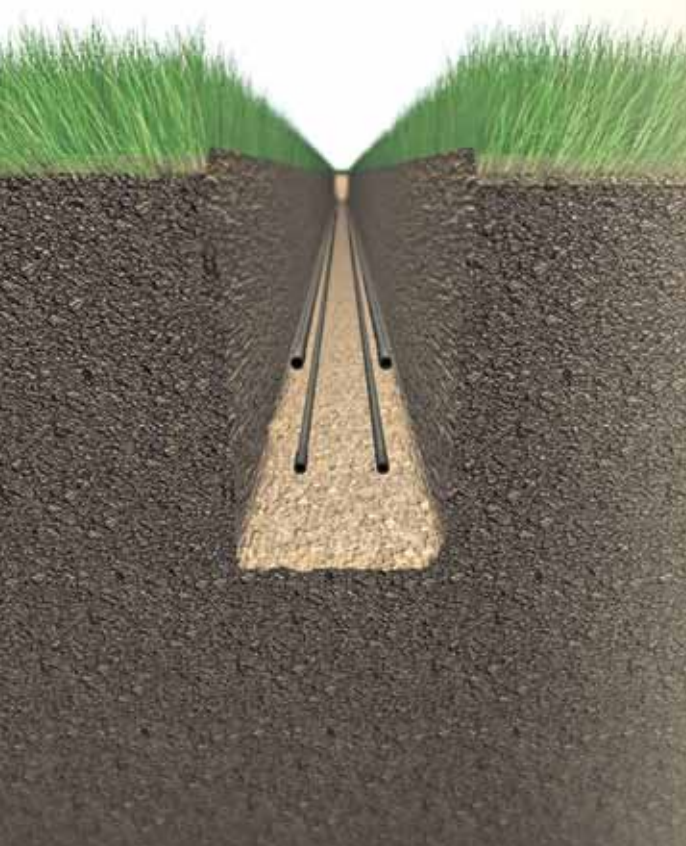
COMPARE THE PERFORMANCE

A GeoStar unit can reduce your annual costs for heating, cooling and hot water by as much as 60% per year. No other gas furnace, air conditioner or heat pump comes close to the GeoStar's efficiency. With continuous and dramatic increases in the cost of fossil fuels like natural gas, propane and fuel oil, the savings possibilities are even greater in the future. Your GeoStar dealer can use software modeling tools to estimate the heating and cooling costs for your home based on square footage, construction style, and climate.



GEOHERMAL LOOP TYPES:

There are four main loop types used in the geothermal industry today. Your GeoStar dealer can provide you with guidance and advice for your specific situation.



VERTICAL LOOP

Used when space is limited. Holes are bored approximately 125 to 250 ft. deep using a drilling rig. A pair of polyethylene pipes with a u-bend fitting is inserted into the holes. A typical home requires three to five bores with roughly a 15-foot separation between the holes.



HORIZONTAL LOOP

Used where adequate land is available. Horizontal loops involve one or more trenches dug using a backhoe or chain trencher. Polyethylene pipes are inserted, and the trenches are backfilled. A typical home requires 1/4 to 3/4 of an acre for the trenches.



POND LOOP

If an adequately sized body of water is close to your home, a pond loop can be installed. A series of closed loops are coiled and sunk to the bottom of the pond or lake. A 1/2 acre, 8-foot-deep pond is usually sufficient for the average home.



OPEN LOOP

An open loop is used where there is an abundant supply of quality well water. The well must have enough capacity to provide adequate flow for both domestic use and the GeoStar unit. GeoStar units require 3 - 10 GPM, depending on size.

MAGNOLIA SERIES ADVANTAGE

GeoStar Magnolia Series units are the perfect balance between efficiency and price. These units benefit from a lengthy and strong heritage. The result is a product packed full of years of engineering advancements. The unit sits among some of the highest efficiency and economical geothermal products available. Because of its history, you'll rest easy knowing the Magnolia Series will provide you with many years of reliable energy savings and relaxation.



MAGNOLIA SERIES FEATURES

BLOWER MOTOR: A variable-speed ECM blower motor allows the unit to provide even comfort, quiet operation, and energy savings.

CABINET: A durable powder-coat finish is standard for long lasting beauty and protection. The unit is fully insulated with a cleanable, foil backed insulation and helps provide quiet operation.

COATED AIR COIL: A corrosion resistant air coil increases equipment life. Its large size improves efficiency and provides better dehumidification.

DRAIN PAN: Electronic overflow protection eliminates the possibility of condensate flooding. The drain pan is corrosion-proof and resists bacterial growth.

HOT WATER ASSIST: With an optional Hot Water Generator, the Magnolia Series can preheat your water and deliver it to your water heater. In the heating mode, hot water is generated at the efficiency of the unit. In cooling, heat is placed in the hot water tank rather than back into the earth, and hot water is free!

COMPRESSOR: A premium scroll compressor is used providing superb efficiency and reliability. The compressors are mounted on double-isolation plates for reduced operation noise.

CONTROLS: An advanced microprocessor enables the unit to continuously sequence components improving performance. Onboard diagnostics allow for easy service. Controls communicate with thermostat to display service messages. ComfortAlert™ module monitors compressor operation for added reliability and easy troubleshooting.

LED STATUS LIGHTS: Externally mounted status lights indicate normal operation or display faults and assist in troubleshooting.

FACTORY QUALITY: Our units are upheld to the strictest standards. Only the best components are used and assembled by our skilled technicians. Each unit is computer run-tested to make sure it's running at peak efficiency.

R-410A: Magnolia Series units use environmentally friendly and non-ozone-depleting R-410A refrigerant which enhances efficiency and savings.



Brought to you by:

AHRI / ISO / ASHRAE PERFORMANCE RATINGS (13256-1)

	Model & Size		Closed Loop		Open Loop	
			Cooling (EER)	Heating (COP)	Cooling (EER)	Heating (COP)
PSC Motor	024	Single	17.0	3.5	22.8	4.0
	030	Single	17.0	3.5	23.0	4.0
	036	Single	16.6	3.3	21.2	3.9
	042	Single	16.8	3.3	22.0	3.8
	048	Single	16.8	3.3	21.0	3.8
	060	Single	16.6	3.3	20.8	3.8
X13 ECM Motor	070	Single	15.2	3.3	20.3	3.8
	024	Single	17.5	3.8	23.4	4.5
	030	Single	18.3	3.8	23.9	4.4
	036	Single	17.3	3.5	23.0	4.3
	042	Single	18.5	3.7	23.5	4.3
	048	Single	18.1	3.6	23.4	4.2
	060	Single	17.9	3.6	23.0	4.0
070	Single	16.1	3.5	21.0	4.0	