



## MAGNOLIA PLUS SERIES

HEATING | COOLING | HOT WATER

[www.geostar-geo.com](http://www.geostar-geo.com)



AFFORDABLE RENEWABLE CLEAN



GEO THERMAL HEAT PUMPS

## WHAT IS GEOTHERMAL?

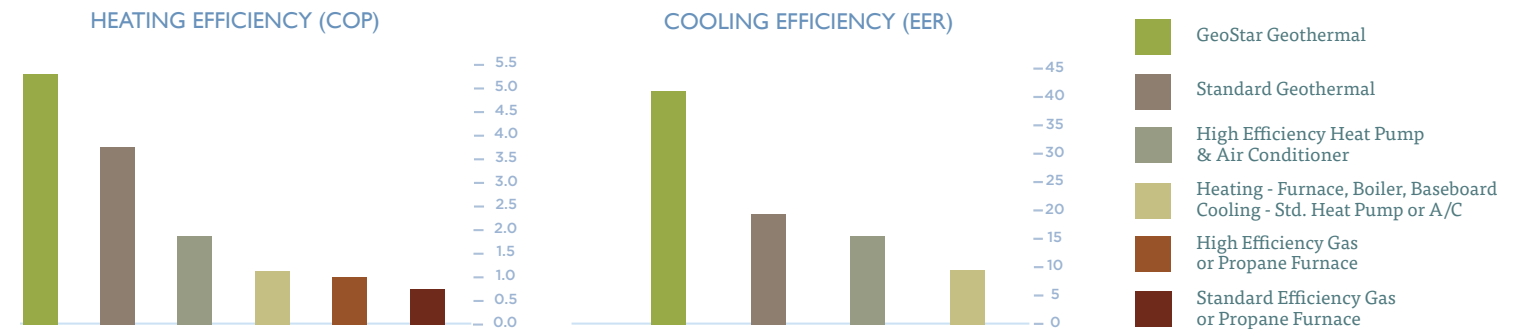
Geothermal units are similar to ordinary heat pumps but use the solar energy stored just below our feet to provide heating, air conditioning and hot water. The earth acts as a giant solar panel, absorbing roughly half of the sun's heat energy. A series of pipes called a "loop" (see next page for more)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



## COMPARE THE PERFORMANCE

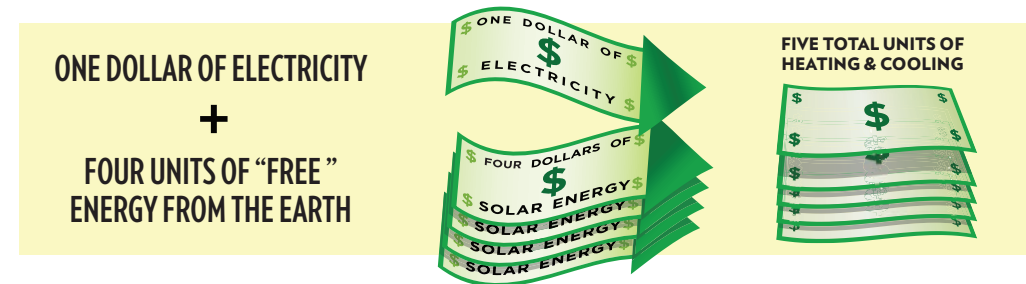
A GeoStar unit can reduce your annual costs for heating, cooling and hot water by as much as 70% per year. No other gas furnace, air conditioner or heat pump comes close to the GeoStar's efficiency. With continuous and dramatic increases in the cost of fossil fuels like natural gas, propane and fuel 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.



## 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 \$5 of heating for every \$1 worth of electricity used, while current "high-efficiency" fossil fuel furnaces provide only 98c. Our units are far 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 70% 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.

## GEOTHERMAL 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.



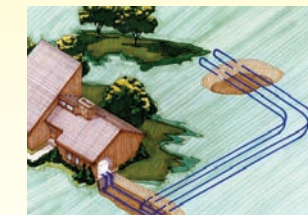
### VERTICAL LOOP

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.



### 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.



### 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.



### 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.



Homeowners who install an ENERGY STAR<sup>®</sup> rated geothermal system in the U.S. are eligible for a 26% federal tax credit. The 26% credit will last through 2020 and can be claimed on equipment and installation costs with no upper limit. The credit is scheduled to decrease to 22% in 2021, so act now for the most savings!

# A COMBINATION OF VALUE AND PERFORMANCE

GeoStar Magnolia Plus Series units are the perfect balance between value and performance, while maintaining a great price point. They benefit from a lengthy and strong heritage, resulting in a product that's packed full of over 30 years of research, engineering advancements, and manufacturing experience. All Magnolia Plus Series units are ENERGY STAR® rated and are much more efficient than any traditional system. And because of its history, you'll rest easy knowing the Magnolia Plus Series will provide you with many years of reliable energy savings and relaxation.



## MAGNOLIA PLUS SERIES FEATURES

**BLOWER MOTOR:** A 5-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.

**ALL-ALUMINUM AIR COIL:** An aluminum air coil is featured in Magnolia Plus Series units for durability and extended system life.

**AURORA BASE CONTROLS:** GeoStar's family of communicating controls, Aurora, is featured to provide simplified troubleshooting and diagnosis.

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

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

**HOT WATER ASSIST:** With an optional Hot Water Generator, the Magnolia Plus 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!

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

**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.

**INTELLISTART®:** This optional soft starter reduces start-up amperage by up to 60% of normal draw to reduce noise, eliminate light flicker, and increase compressor life.



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)	
024	Full Load	15.6	3.8	20.6	4.4
	Part Load	20.6	4.1	24.4	4.5
036	Full Load	15.5	3.6	19.7	4.2
	Part Load	21.5	4.1	25.5	4.5
048	Full Load	16.0	3.7	21.8	4.3
	Part Load	22.0	4.1	27.3	4.5
060	Full Load	16.5	3.4	20.7	4.0
	Part Load	22.3	3.9	26.2	4.2
072	Full Load	16.4	3.5	20.8	4.1
	Part Load	21.9	3.7	25.3	4.1