



A S T O N S E R I E S

HEATING | COOLING | HOT WATER

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A F F O R D A B L E R E N E W A B L E C L E A N



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

WHAT IS GEOTHERMAL?

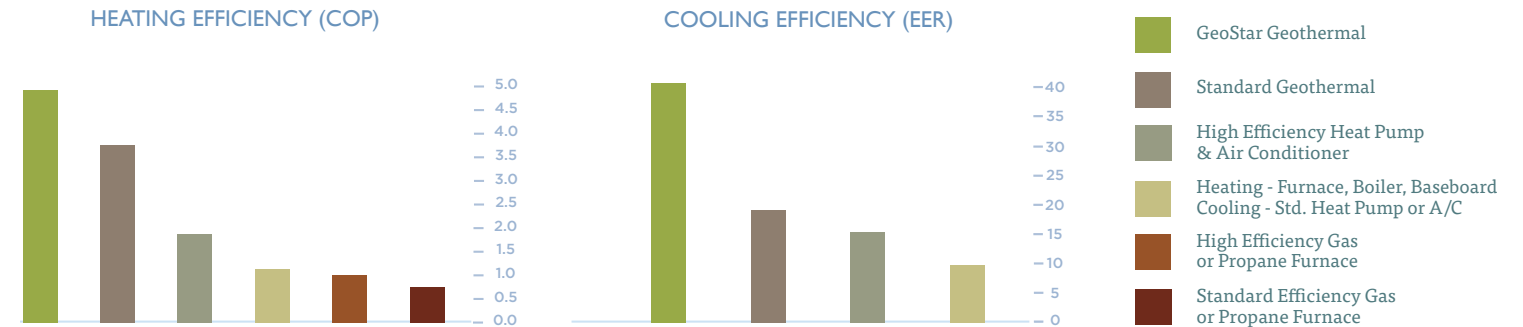
Geothermal units use the solar energy stored just below our feet to provide heating, air conditioning and hot water. The earth acts as a giant solar panel absorbing roughly half of the sun's heat energy. A series of pipes called a "loop" (see next page for more) is buried just below the frost line to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

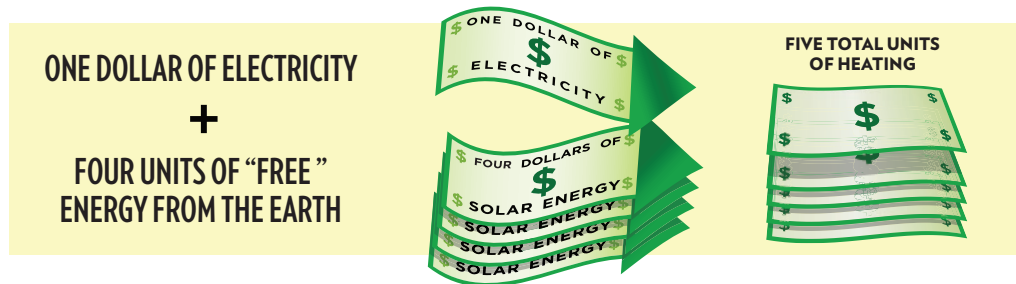
A GeoStar unit can reduce your annual costs for heating, cooling and hot water by as much as 70% per year. No other gas furnace, air conditioner or heat pump comes close to GeoStar's efficiency. With continuous and dramatic increases in the cost of fossil fuels like natural gas, propane and fuel oil, 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 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: A GeoStar unit runs only at the level needed by using a variable speed motor. It'll slowly ramp up to speed rather than "roaring" to life like a traditional unit—resulting in even, consistent comfort. You won't experience the large temperature fluctuations associated with other heating and cooling solutions.

QUIET: With our unit, there's no noisy outdoor equipment to disturb the peace or clutter your yard. GeoStar units are so quiet, some homeowners have reported checking the unit to see if it's even 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.



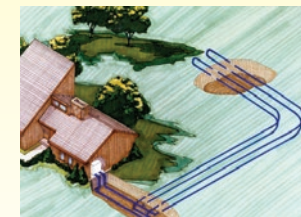
VERTICAL LOOP

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[®] rated geothermal system in the U.S. are eligible for a 30% federal tax credit. The 30% credit will last through 2032 and can be claimed on equipment and installation costs with no upper limit. The credit is scheduled to decrease to 26% in 2033 then to 22% in 2034, so act now for the most savings!

ASTON SERIES TECHNOLOGY

GeoStar products are designed to heat and cool while saving you money and protecting our environment. The Aston Series utilizes environmentally safe R-410A refrigerant and includes scroll compressors—the most durable and efficient compressor technology. Dual capacity operation provides the finest in comfort and energy savings. And with the Aurora family of controls, you'll have two-way communication, and one of the most efficient dual stage geothermal heating and cooling units to date.

ASTON 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.

ALL-ALUMINUM AIR COIL: An aluminum air coil is featured to provide durability and extended system life.

HOT WATER ASSIST: With an optional hot water assist, the Aston 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: For the best in efficiency, all dual stage Aston units feature Scroll UltraTech™ compressors, while single capacity units utilize LG rotary compressors. All compressors are double isolation mounted for quiet operation.

AURORA CONTROLS: Aurora Base Controls provide intelligent operating logic and powerful troubleshooting capabilities.

FACTORY QUALITY: Quality checks are performed throughout the assembly process, and computer run-testing is done on every unit to ensure flawless startup and long-term reliability.

R-410A: All Aston Series units use R-410A—an environmentally friendly non-ozone-depleting refrigerant that 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)
Dual Capacity	026	Full Load	19.6	4.0	24.0	4.8
		Part Load	26.0	4.5	29.7	4.9
	038	Full Load	19.7	4.2	24.4	4.9
		Part Load	28.0	4.8	32.1	5.1
	049	Full Load	19.3	4.0	24.5	4.6
		Part Load	27.4	4.4	33.0	4.7
064	Full Load	19.3	3.8	23.9	4.6	
	Part Load	26.5	4.3	30.7	4.8	
Single Speed	072	Full Load	18.2	3.7	22.0	4.3
		Part Load	24.9	3.9	27.6	4.3
	012	PSC	16.5	3.5	23.1	4.2
		ECM	18.3	3.8	26.8	4.7
	022	ECM or 5-Speed	18.7	4.0	30.0	4.8
		ECM or 5-Speed	22.0	3.9	29.5	4.8
	036	ECM or 5-Speed	22.0	4.2	30.1	5.1
		ECM or 5-Speed	21.7	4.0	29.5	4.9
	048	ECM or 5-Speed	18.8	4.0	26.1	4.7
		ECM or 5-Speed	18.4	4.0	24.7	4.7
070	ECM or 5-Speed	17.6	3.7	23.8	4.4	