



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

ASTON SERIES OUTDOOR SPLIT

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

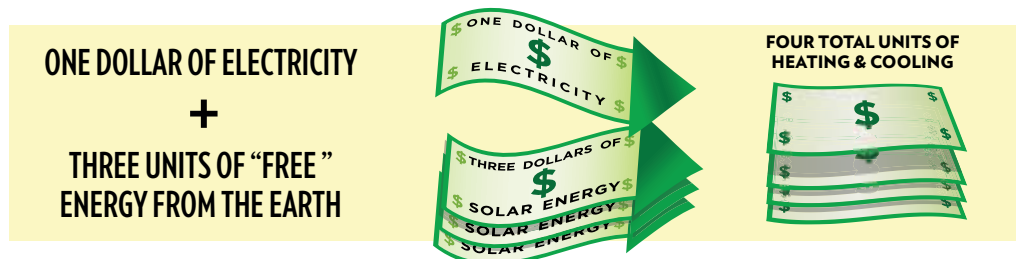
through the loop, concentrated, and delivered throughout your home. During summer, the excess heat in your home is removed and delivered back to the earth, completing the cycle. Because geothermal units use the earth's natural heat, they are among the most efficient and comfortable heating and cooling technologies 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: If used with a GeoStar split or GeoStar air handler, 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.

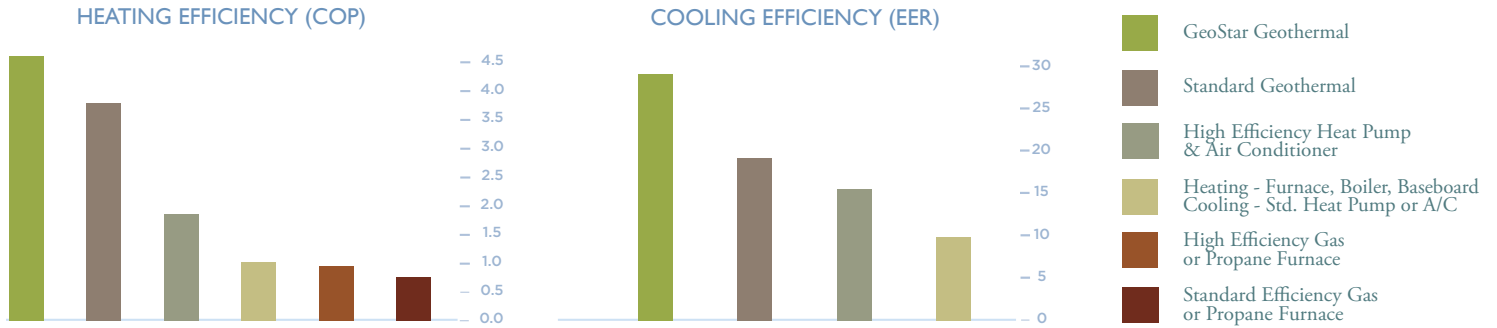
QUIET: The interior of GeoStar units are fully insulated, providing very minimal operation noise. Some homeowners have reported checking the unit to see if it's running.

LONGER LIFE AND RELIABILITY: As stated above, GeoStar units are fully insulated and are covered with a clean, durable powder-coat finish. These combine to make one tough unit that will endure through any kind of environmental abuse.

ENVIRONMENTALLY FRIENDLY: Geothermal units don't burn any fossil fuels or create carbon monoxide. This reduces our dependence on foreign oil while working 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 the use of geothermal heat pumps is the most environmentally friendly and cost-effective way to condition our homes.

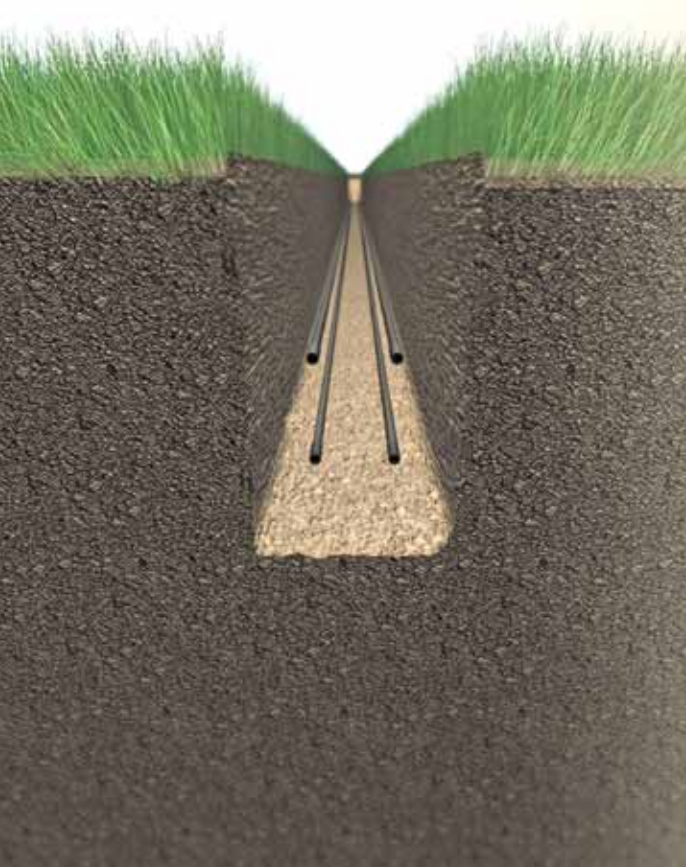
COMPARE THE PERFORMANCE

A GeoStar unit can reduce your annual heating, cooling and hot water costs 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.

ASTON OUTDOOR SPLIT BENEFITS

GeoStar outdoor split systems are engineered for installations where space is an issue. Their rugged, sealed cabinets allow use outdoors while still providing protection from the constant abuse of the elements. Connect the Aston Series split to a GeoStar air handler to efficiently heat and cool your entire home, or add the unit to an existing fossil fuel furnace and the system will automatically select the most efficient fuel source for your home regardless of outside temperatures. Like all GeoStar products, the Aston Series is designed to provide versatile heating and cooling with unmatched savings and environmentally friendly operation.



ASTON OUTDOOR SPLIT FEATURES

CABINET: The exterior of the cabinet is covered with a clean, durable powder-coat finish providing long lasting protection. The interior is fully insulated providing quiet operation.

REFRIGERANT SYSTEM: Nitrogen is used in brazing to ensure an oxygen-free environment and prevents oxidation in the lines. Each unit is vacuum tested and joints are checked for leaks with helium. Because helium is smaller in structure than oxygen, it's better at revealing leaks.

COMPRESSOR: Premium scroll compressors provide exceptional efficiency and reliability. All compressors are mounted on a heavy-duty isolation plate with sound dampening rubber grommets to ensure quiet operation.

CONTROLS: A microprocessor sequences equipment for peak efficiency. The ComfortAlert option adds advanced self-diagnostic features, additional status display features and smart communication between the unit and thermostat. A freeze protection switch will cycle loop pumps during cold weather to maintain proper function.

LOOP PUMPS : The flow center and earth loop connections are self-contained in the unit housing, eliminating the need for any indoor loop piping.

SPLIT CONFIGURATION: Aston Series Split units provide the efficiency of geothermal and the versatility of a split system. When added to an existing fossil fuel system, the geothermal unit provides super-efficient heating and cooling with backup. When combined with our GeoStar air handler, the unit is Energy Star rated and eligible for the 30% tax credit.

FACTORY QUALITY: Our products 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: R-410A is an environmentally friendly, non-ozone-depleting refrigerant that enhances efficiency and savings.



Brought to you by:

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

Dual Capacity	Model & Size		Closed Loop		Open Loop	
			Cooling (EER)	Heating (COP)	Cooling (EER)	Heating (COP)
026	Full Load		17.0	3.9	21.8	4.6
	Part Load		24.5	4.4	28.4	4.8
038	Full Load		17.1	3.8	20.4	4.5
	Part Load		25.3	4.2	27.0	4.4
049	Full Load		16.1	3.8	20.2	4.4
	Part Load		22.9	4.3	25.8	4.7
064	Full Load		15.5	3.6	19.2	4.3
	Part Load		22.2	3.9	24.9	4.3
072	Full Load		15.0	3.4	17.8	3.9
	Part Load		20.0	3.8	22.8	4.0