



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 SINGLE HYDRONIC UNIT

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,

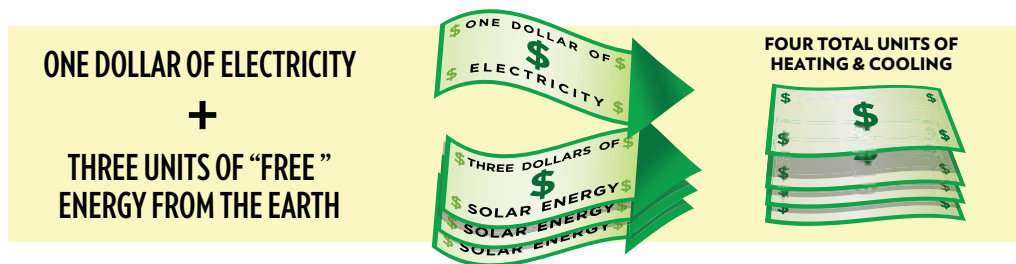
heat is brought in through the loop, concentrated, and delivered throughout your home. During summer, the excess heat in your home is removed and delivered back to the earth, completing the cycle. Because geothermal units use the earth's natural heat, they are among the most efficient and comfortable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

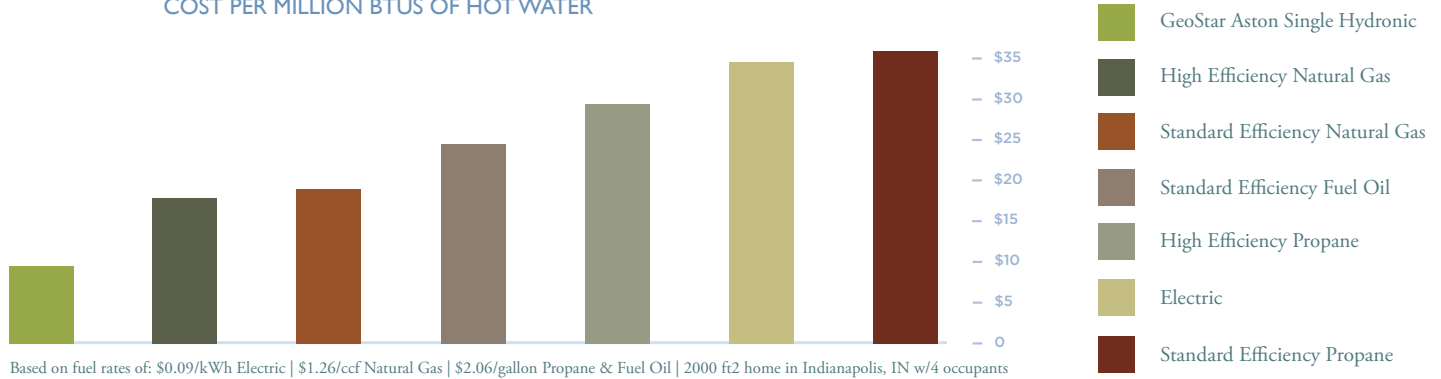
LONGER LIFE AND RELIABILITY: Because GeoStar units don't require any outdoor equipment, they are protected from the rain, snow, environmental contaminants and abuse that hinders the efficiency of traditional air conditioners and heat pumps.

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.

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.

COST PER MILLION BTUS OF HOT WATER



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

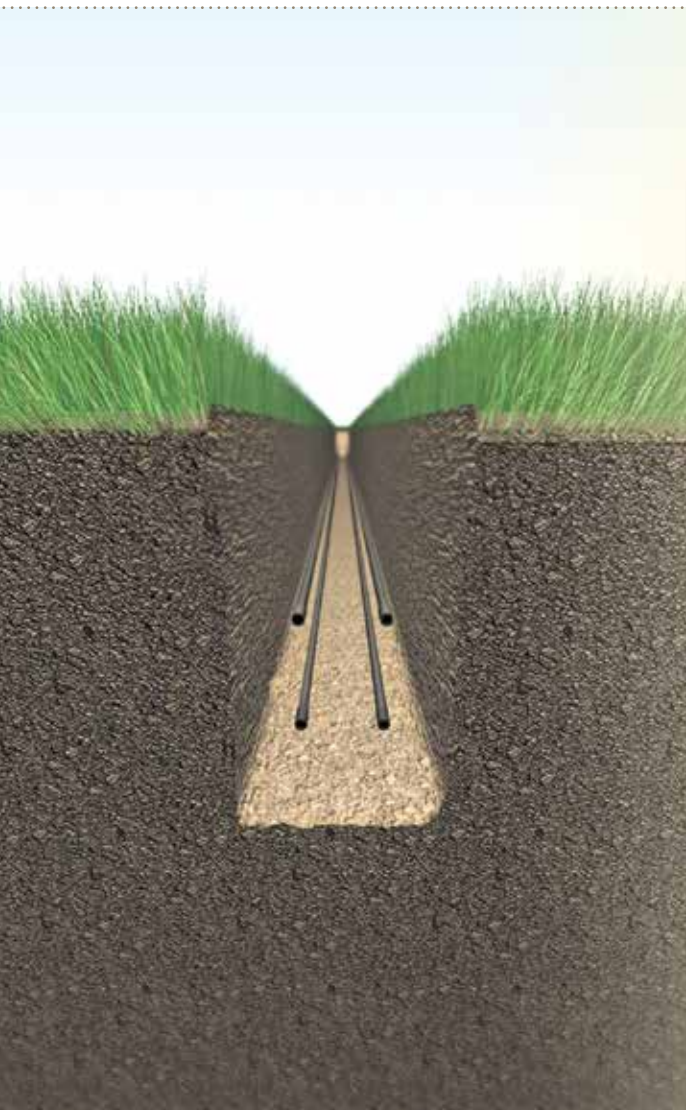
Used where adequate land is available. Horizontal loops involve one or more trenches dug using a backhoe or chain trencher. Polyethylene pipes are inserted, and the trenches are backfilled. A typical home requires 1/4 to 3/4 of an acre for the trenches.

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.



THE ASTON SINGLE HYDRONIC DESIGN

The Aston Series Single Hydronic is designed for high-demand hot water applications such as radiant floor heating, pool or spa heating*, and snow melting for icy sidewalks. Use the Aston Single Hydronic in conjunction with a GeoStore geothermal storage tank for the greatest savings. Like all GeoStar units, the Aston Single Hydronic is manufactured to provide long-lasting operation and unmatched performance.



ASTON SINGLE HYDRONIC FEATURES

CABINET: The casing is constructed using heavy gauge steel with a clean, durable, white finish. Multiple access panels and a movable control box allow piping to be offered on either the front or back making the unit quite versatile.

COMPRESSOR: High efficiency scroll compressors are installed in the Aston Single Hydronic. A variety of insulation is used such as heavy-duty plates and rubber grommets which deaden most sound and vibrations emitted by the unit.

INSULATED COAXIAL HEAT EXCHANGER: Aston Single Hydronic units use a premium foam insulation around their heat exchangers. This gives each GeoStar unit superior efficiency and a smaller footprint in the environment.

CONTROLS: Controls for the Aston Single Hydronic are incredibly easy to use, displaying both operational modes and adjustable temperatures. An advanced microprocessor ensures peak performance of the load pump, source pump and compressor by sampling tank temperatures within the water storage tank. All this leaves you with less to worry about.

HOT WATER ASSIST: Larger Aston Single Hydronic units have the option of a Hot Water Generator (hot water assist function). This addition provides supplemental heating to the potable hot water supply while also providing space heating (depending on the application).

FACTORY QUALITY: Aston Single Hydronic units are upheld to the strictest standards. Only the best components are used and assembled by our skilled technicians. Before leaving the factory, each unit is computer run-tested to make sure it's running at peak efficiency.

R-410A: Environmentally friendly R-410A is a non-ozone-depleting refrigerant that enhances efficiency and savings.

ENERGY STAR/AHRI/ETL LISTED: Aston Single Hydronic units are certified by the AHRI and safety listed by ETL. 018, 025, 040, 050 and 060 models are Energy Star rated.



*Note: Not suitable for direct use with chlorinated water.

Brought to you by:

AHRI / ISO / ASHRAE PERFORMANCE RATINGS (13256-2)

Model & Size			Closed Loop		Open Loop	
			Cooling (EER)	Heating (COP)	Cooling (EER)	Heating (COP)
Single Capacity	018	Single	16.6	3.0	22.9	3.7
	025	Single	15.8	3.0	21.2	3.8
	040	Single	17.5	3.1	23.4	3.9
	050	Single	16.4	3.1	21.6	3.7
	060	Single	15.7	3.0	20.6	3.8
	075	Single	14.0	2.9	18.0	3.5



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