



ASTON SERIES HYDRONIC WATER-TO-WATER

HEATING | COOLING | HOT WATER

www.geostar-geo.com



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,

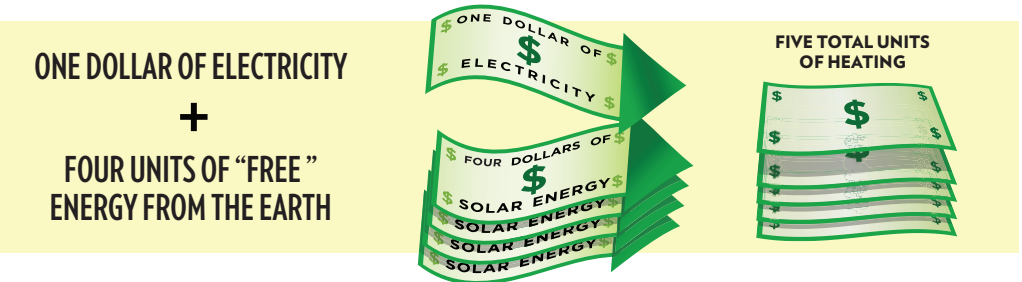
heat is brought in through the loop, concentrated, and delivered throughout your home. During summer, the excess heat in your home is removed and delivered back to the earth, completing the cycle. Because geothermal units use the earth’s natural heat, they are among the most efficient and comfortable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



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 98¢. 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.

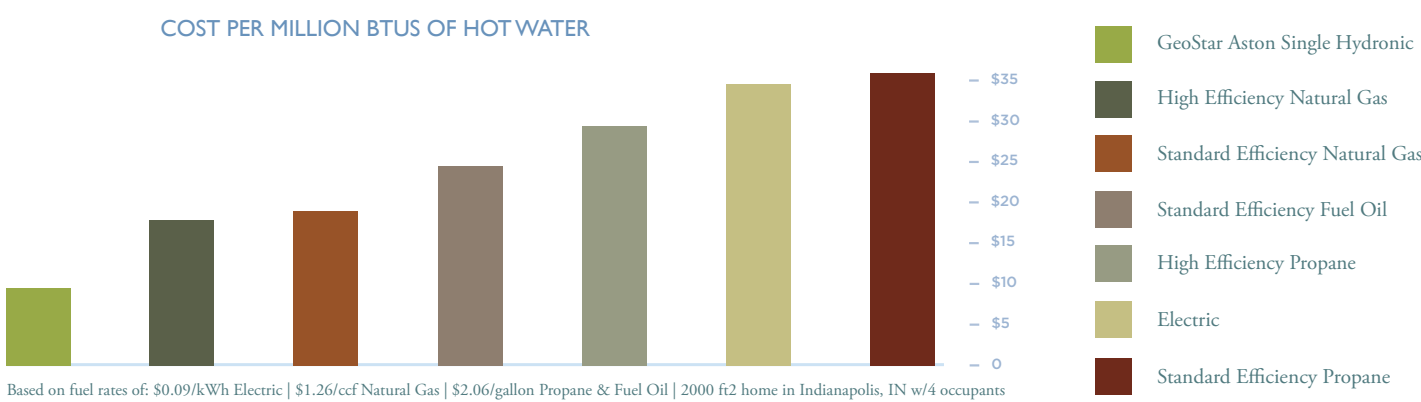
QUIET: With our units, there’s no noisy outdoor equipment to disturb the peace or clutter your yard. Some homeowners have reported checking the unit to see if it’s running.

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.

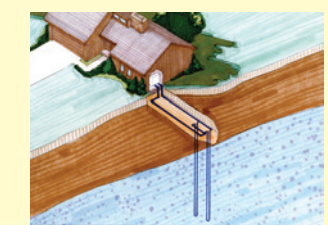
COMPARE THE PERFORMANCE

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.



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.



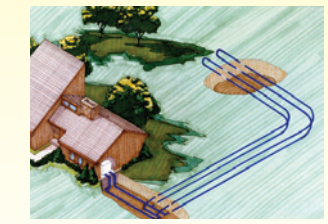
VERTICAL LOOP

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 SINGLE HYDRONIC

The Aston Series Single Hydronic is designed for general hot water applications such as radiant floor heating or hydronic air handlers. One optional configuration can be used to provide all the domestic hot water for the home at a fraction of the cost of an ordinary water heater.

ASTON DUAL HYDRONIC

Many of today's bigger homes require a large supply of hot water. The Aston Series Dual Hydronic is designed for high-demand / high volume hot water applications such as radiant floor heating, hydronic air handlers, pool or spa heating*, and even snow melting for icy sidewalks and driveways.

ASTON WATER-TO-WATER FEATURES

Like all GeoStar units, the Aston Water-to-Water models are manufactured to provide long-lasting operation and unmatched performance. Units are designed to be coupled with matched thermostats and with the GeoStore buffer tank for reliability.

FACTORY QUALITY: Aston Hydronic units are upheld to the strictest quality 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.

CABINET: The casing is constructed using heavy gauge steel with a clean, durable finish. Multiple access panels and a movable control box allow piping to be offered on the top or back for installation versatility and easy servicing.

COMPRESSOR: Heavy-duty plates, insulation and rubber grommets isolate the compressor to provide the best combination of sound/vibration absorption available. Single hydronic units utilize a high efficiency scroll compressor. Dual hydronic units include 2 high efficiency scroll compressors.

REFRIGERANT: All units feature environmentally friendly R-454B refrigerant to achieve high performance levels of efficiency, capacity and protection of the atmosphere.

HEAT EXCHANGER: Aston Single Hydronic units use a premium foam insulation around their coaxial heat exchangers. In Dual Hydronic models, brazed plate heat exchangers are used to provide high performance and reliability in a small footprint to stay compact and versatile.

AURORA CONTROLS: Sophisticated controls are utilized to monitor energy usage. An optional control choice adds full performance and refrigeration monitoring. Remote access allows the dealer to effectively troubleshoot and diagnose the unit on-line.

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.

HOT WATER ASSIST: Single hydronic models are available with an optional function to produce domestic hot water during heating and cooling operation.

ENERGY STAR/AHRI/ETL LISTED: All models are certified by the AHRI and safety listed by ETL. All models except the 180 size meet EnergyStar requirement.



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
024	Single	16.1	3.1	22.2	3.8
048	Single	16.1	3.1	20.9	3.6
060	Single	16.1	3.1	20.4	3.8
120	Full Load	15.4	2.9	19.9	3.6
	Part Load	18.1	3.3	20.5	3.7
180	Full Load	14.2	2.7	18.1	3.2
	Part Load	16	3.2	17.9	3.6

*Not suitable for direct use with chlorinated water.