



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

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

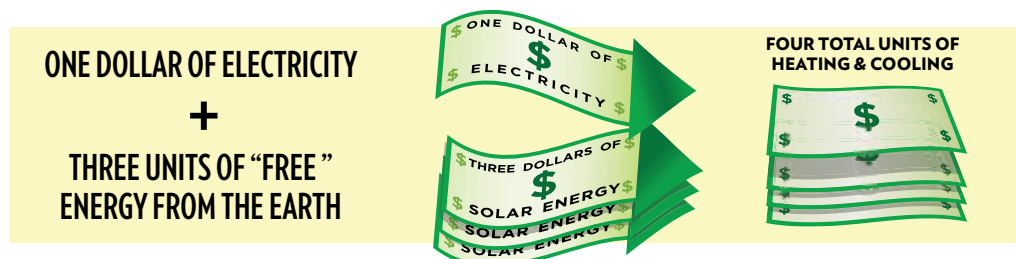
in through the loop, concentrated, and delivered throughout your home. During summer, the excess heat in your home is removed and delivered back to the earth completing the cycle. Because geothermal units use the earth's natural heat, they are among the most efficient and comfortable heating and cooling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



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 of electricity used, while current "high-efficiency" fossil fuel furnaces provide only 96¢. 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: 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.

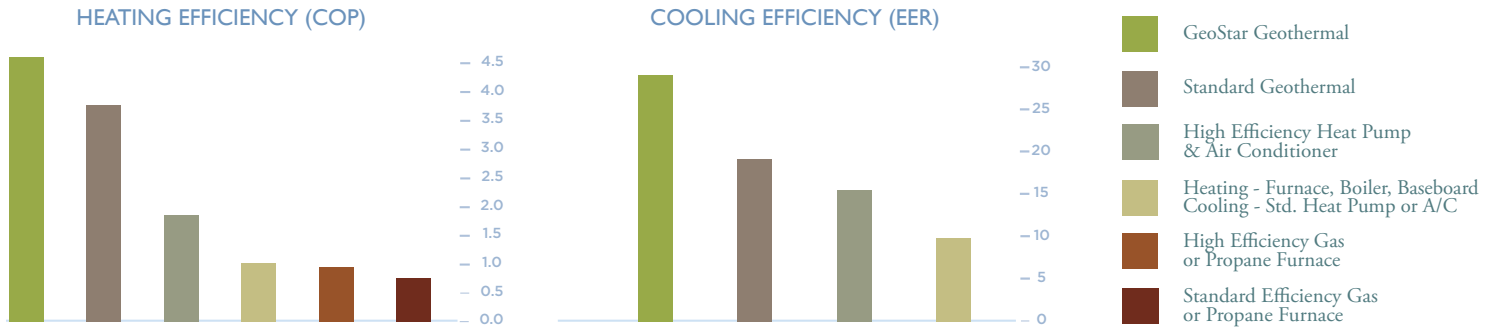
QUIET: With our unit, there's no noisy outdoor equipment to disturb the peace or clutter your yard. GeoStar units are so quiet, some homeowners have reported checking the unit to see if it's even running!

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.

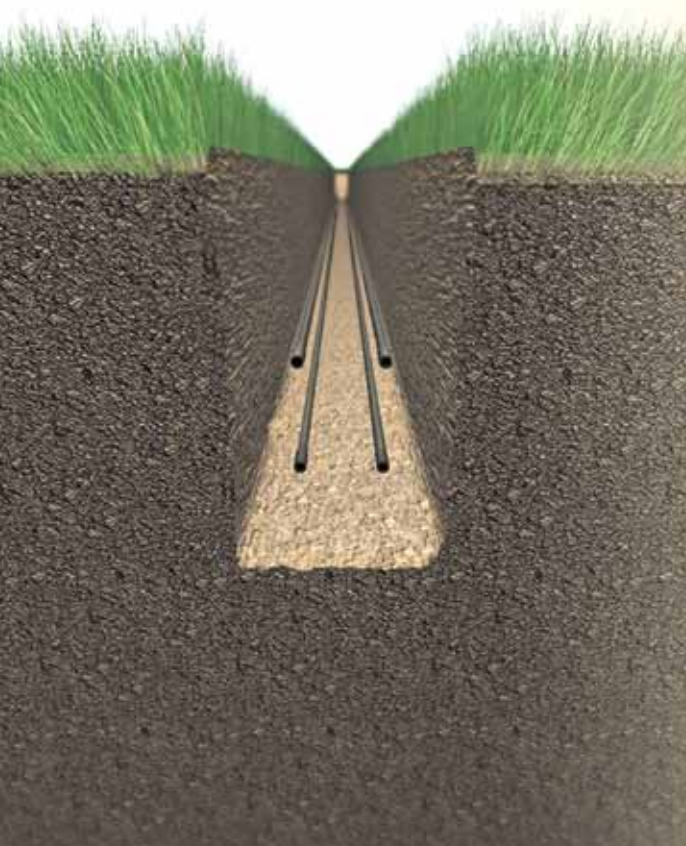
COMPARE THE PERFORMANCE

A GeoStar unit can reduce your annual costs for heating, cooling and hot water by as much as 60% 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.



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 SERIES TECHNOLOGY

GeoStar products are designed to heat and cool while saving you money and protecting our environment. We combine innovative technology and components to achieve the highest levels of performance and peace of mind. Our Aston Series units all utilize environmentally safe R-410A refrigerant. They also include Copeland Scroll™ compressors - the most durable and efficient compressor technology. Dual capacity operation provides you with the finest in comfort and energy savings. And with sophisticated and robust microprocessor controls, compressor monitoring, and today's best digital thermostats, the Aston Series sets the new industry benchmark.



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.

COATED AIR COIL: A corrosion resistant air coil increases equipment life. Its large size improves efficiency and provides better dehumidification during cooling.

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

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: Scroll compressors are featured in all Aston Series products for superb efficiency and reliability. Dual capacity units include Scroll UltraTech™ compressors mounted on double-isolation plates for extra quiet operation.

CONTROLS: Sophisticated microprocessor controls sequence components to provide ultimate performance. Onboard diagnostics allow for easy service. Controls communicate with thermostat to display service messages. ComfortAlert™ module monitors compressor operation for added reliability and easy troubleshooting.

LED STATUS LIGHTS: Externally mounted status lights indicate normal operation or display faults and assist in troubleshooting.

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	18.4	4.1	24.0	5.0
	026 Part Load	26.4	4.6	30.8	5.2
	038 Full Load	19.8	4.1	24.0	4.9
	038 Part Load	28.0	4.8	31.7	5.3
	049 Full Load	18.0	4.0	22.6	4.7
	049 Part Load	25.0	4.5	28.3	5.2
Single Speed	064 Full Load	17.8	3.8	22.2	4.5
	064 Part Load	25.6	4.1	29.0	4.7
	072 Full Load	16.8	3.7	20.1	4.3
	072 Part Load	22.7	4.0	25.0	4.4
	022 Single	20.5	3.9	29.5	5.0
	030 Single	21.7	3.9	28.7	5.0
	036 Single	21.8	4.3	29.8	5.0
	042 Single	21.0	4.1	29.3	5.1
	048 Single	19.5	3.9	26.0	4.8
	060 Single	19.2	3.8	26.0	4.6
	070 Single	18.1	3.6	23.8	4.4