



Efficient, Reliable, Affordable. The ECO-Z® series by GeoSmart provides homeowners with the comfort and performance of a geothermal system, at an affordable price. With industry leading standard options in a compact cabinet the ECO-Z® is suitable for both retrofit and new construction applications. The smart design of the ECO-Z® optimizes it for both geothermal closed loop and well-water installations in single or multi-family housing.

The ECO-Z® series is Energy Star rated and performance-certified under ARI/ISO 13256-1, while utilizing environmentally friendly R410A refrigerant. It is designed to adhere to the footprint of lower efficiency equipment while operating at the high efficiencies of today's technology. The ECO-Z® is available in a wide selection of nominal capacities (015-070), cabinet sizes, and an array of factory installed options to offer unmatched application flexibility. Not to mention all units are computer run-tested to ensure reliable performance at start-up – and for many years to come.

## ECO-Z® FEATURES

**COMPRESSOR:** Scroll or rotary single speed mounted on a double isolation system. Super Quiet Sound Package for improved noise reduction.

**BLOWER INLET RINGS:** Allow for easy motor and blower removal without disconnecting from the unit duct work.

**WATER LINES:** Flush mount connections allow one wrench leak-free connections without a back-up.

**FILTER:** Filter rack with 1" GeoAir Electrostatic Filter.

**CABINET:** Heavy gauge, environmentally responsible galvanized steel and gray powder-coated finish for maximum corrosion resistance. High density, foil faced cabinet insulation for improved air quality and easy cleaning.

**THERMOSHIELD™:** Proprietary coating applied to water-to-refrigerant heat exchanger that protects against condensations in extended range applications (below 10°C).

**BLOWER MOTOR:** Variable speed ECM blower motors for improved efficiency and comfort allow for quiet operation and a wide range of airflow selections.

**FORMISHIELD™:** Coating for added protection against formicary corrosion.

**CONTROLS:** Robust FX-10 microprocessor control.

**SOFT START** (Optional Feature): GeoStart™ reduces the amount of current needed to activate the unit by 60-70%. This helps alleviate light flicker, reduces start-up noise and increases compressor life.

**HOT WATER ASSIST** (Optional Feature): The unit preheats your water and delivers it directly to your water heater. The longer the ECO-Z® operates, the more hot water it generates. In the heating mode, hot water is generated at the efficiency of the unit. In cooling mode, waste heat is recovered and your hot water is free.



The GeoSmart ECO-Z® is AHRI Performance Certified® by the Air-Conditioning, Heating and Refrigeration Institute, is safety listed by ETL (Electrical Testing Labs) and exceeds performance standards for the ENERGY STAR® rating.



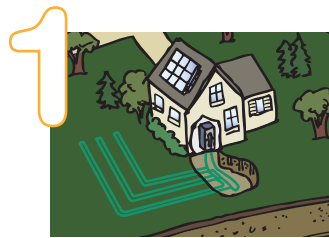
# Performance Data

SINGLE STAGE UNITS			COOLING @ EWT 77F		HEATING @ EWT 32F		COOLING @ EWT 59F		HEATING @ EWT 50F	
Model	CFM	GPM	BTU	EER	BTU	COP	BTU	EER	BTU	COP
ZS015	500	4	14,700	17.5	11,500	3.7	16,000	24.3	15,000	4.4
ZS018	600	5	18,500	17.5	13,700	3.7	20,600	24	17,500	4.4
ZS023-24	800	6	24,400	17.5	17,500	3.8	26,400	23.4	22,300	4.5
ZS030	900	8	29,000	18.3	22,800	3.8	32,900	23.9	28,300	4.4
ZS036	1150	9	34,500	17.3	26,000	3.5	37,700	23	33,000	4.3
ZS0041-42	1400	11	42,300	18.5	29,900	3.7	45,800	23.5	37,000	4.3
ZS048	1600	12	49,500	18.1	36,900	3.6	52,000	23.4	45,900	4.2
ZS060	1900	15	60,900	17.9	47,100	3.6	65,500	23	58,400	4
ZS070	2100	18	68,500	16.1	51,600	3.5	70,000	21	64,100	4

## Installing Geothermal Loops

When it comes to geothermal installation, no one knows more about how to do it right than GeoSmart's Geothermal Specialists. Backed by extensive training, our Geothermal Specialists are skilled in selecting and installing the geothermal loop system best suited for your home or business regardless of the weather and soil conditions in your area.

Each loop system uses GeoSmart's high density PE100 green geothermal pipe, the most resilient geothermal pipe available on the market today. Once inserted in the ground, the pipe leads into the foundation of your building through either a sleeve cemented into the wall or under the footings and connects directly to your heat pump, bringing you years of worry-free, high performance renewable heating and cooling using the earth as a natural energy source.



### HORIZONTAL LOOPS

Horizontal loops are the most common type of loop system, and are commonly used in rural areas due to the land space needed for installation. An excavator will dig several trenches about six feet deep in the ground, each one up to 300 feet long. Our green geothermal pipe is placed in the trenches which are then backfilled with soil.



### VERTICAL LOOPS

Vertical loops are primarily used in urban areas because they require little land space for installation. A specially designed geothermal drilling rig bores vertical holes into the ground each ranging from 180 to 540 feet deep. Our green geothermal pipe is inserted into each vertical bore and then the holes are filled with bentonite grout.



### POND OR LAKE LOOPS

On properties that have a nearby lake or pond that is appropriate in size and eight feet deep, a loop system can be submerged at the bottom of the body of water. A single trench is excavated from the home to the water and typically two pipes are inserted into it. These two pipes connect to several green geothermal pipes that are submerged at the bottom of the lake or pond.



### OPEN LOOPS

Open loops are most commonly used on rural properties that have existing high capacity water wells. Ground water is withdrawn from an aquifer through a supply well and pumped into the heat pump, while discharged water from the heat pump is redirected into a second well and back into the same aquifer.

