

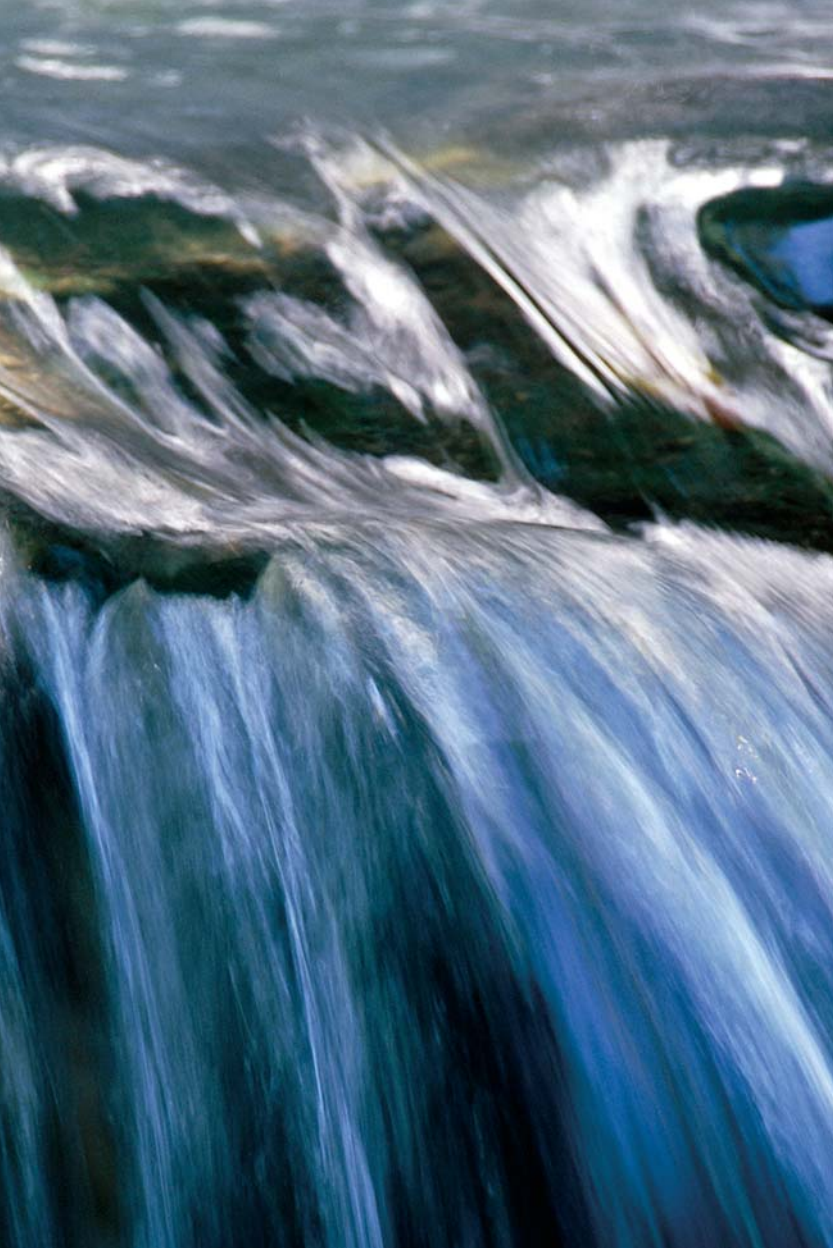
W-Series

Single & Two-Stage Water-to-Water Geothermal Heating and Cooling Systems



Geothermal Systems
Hydron
Module®

www.hydronmodule.com



W-Series Water-to-Water

Longing for the unparalleled comfort of radiant floor heating? Look no further than the Hydron Module® water-to-water geothermal system. This geothermal system can be used with a radiant floor system or a forced-air fan to provide your home's heating and cooling. In addition to the obvious home comfort benefits of hydronic heating and cooling, the Hydron Module water-to-water system can also be used for domestic water heating, pool or spa heating, and in some areas it can even be used to melt snow outside the home. As with all Hydron Module systems, the water-to-water unit is more efficient than conventional systems and uses environmentally friendly R-410A refrigerant. Purely luxurious. Simply a more comfortable way to heat and cool your home.

Hydron Module - ***Pure & Simple***

Why Choose Geothermal?

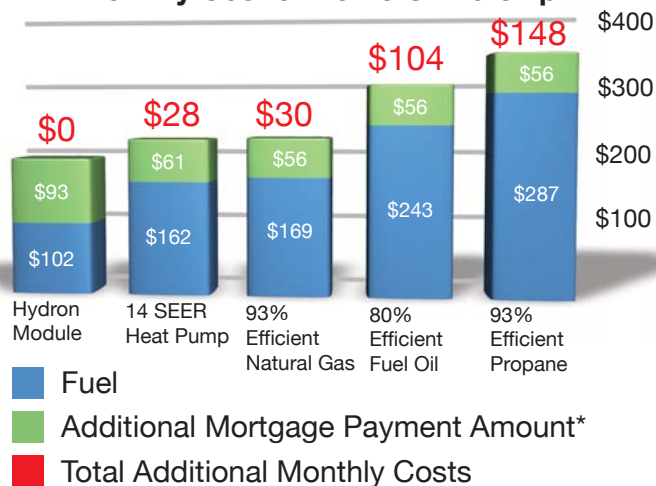
There are a number of different reasons why you and your family should choose a Hydron Module geothermal heating and cooling system for your home. Everyday, more and more homeowners are turning to geothermal for better comfort and lower energy costs.

Hydron Module geothermal systems are three to four times as efficient as conventional systems. They do not rely on fossil fuels which can harm the environment and they offer unsurpassed comfort through better air purification, dehumidification and more consistent air temperatures.

And don't just take our word for it, the EPA (U.S. Environmental Protection Agency) has stated that geothermal systems are, "the most energy efficient, environmentally clean, and cost-effective space conditioning systems available today.*"

* Source: "Space Conditioning: The New Frontier

Monthly Cost of Home Ownership



*Assumes additional system cost is applied to mortgage

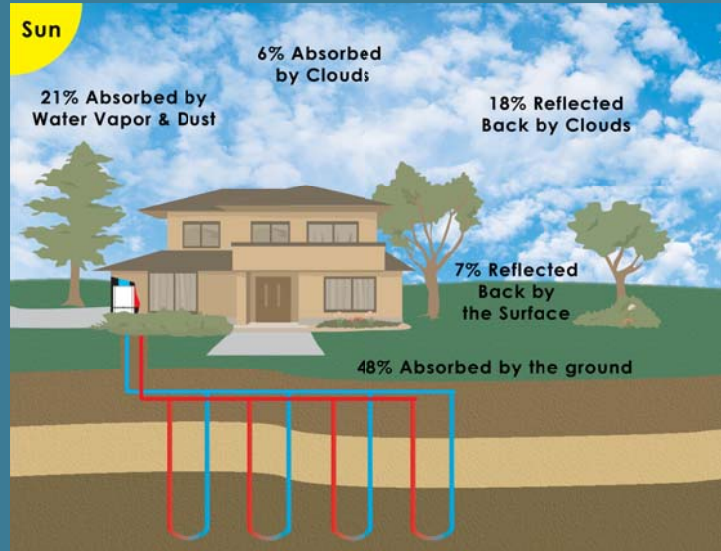
Due to the high installation costs, a new geothermal system will typically have a higher up-front cost versus a conventional system. However, that is only half of the story. Geothermal systems have significantly lower operating costs, which are realized from the very first day the system is in operation. With escalating fossil fuel prices and new State/Provincial and Federal rebates/credits, choosing geothermal becomes an easier decision every day.

How Geothermal Works

Fundamentally, geothermal systems work differently than ordinary heating and cooling systems. Conventional systems have to produce heat by burning some type of fuel, typically propane, natural gas or fuel oil. Geothermal systems don't create heat; instead they collect and distribute it.

First, you should realize that the earth absorbs and stores nearly half of the sun's solar energy. As a result, at a depth of six feet it maintains a fairly constant temperature of 45 to 70 degrees F. The geothermal system taps into that free, renewable energy and puts it to work.

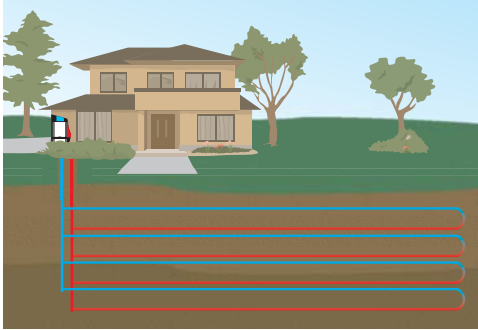
The earth's natural heat is collected in the winter by a series of pipes called a loop system. Fluid circulating in the loop system carries this heat to the home, where it is compressed and released to raise the inside temperature.



In the summer, this process is reversed in order to cool the home. Heat is drawn from the home, rejected to the loop and absorbed by the earth. The result is a comfortable home all year round.

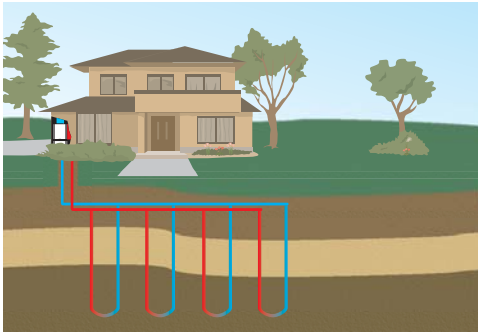
Since most of the energy used for heating and cooling is free from the earth, geothermal systems are the most efficient and environmentally friendly systems on the market today.

The Heart of the System: Geothermal Earth Loops



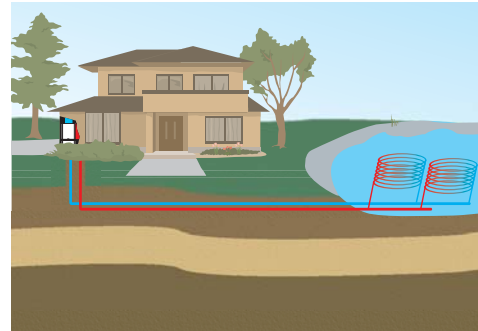
Horizontal Loop: This is the most common loop used when adequate land area is available. Loop installers use excavation equipment such as chain trenchers, backhoes and

track hoes to dig trenches approximately 6-8 feet deep. Trench lengths range from 100 to 300 feet per ton, depending on the loop design and application.



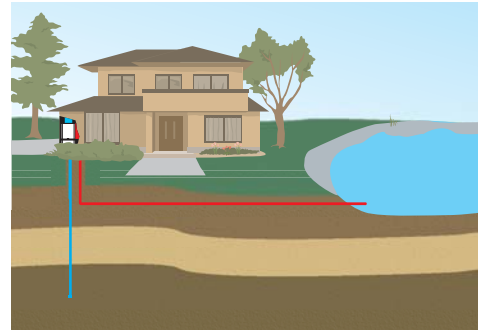
Vertical Loop: This loop is used mainly when land area is limited and in retrofit applications of existing homes. A drilling rig is used to bore holes at of depth of 150 to 300 feet per ton. A

U-shaped coil of high density pipe is inserted into the bore hole. The holes are then backfilled with a sealing solution.



Pond Loop: A pond loop is an option if a large body of water is available within approximately 200 feet of the home. A $\frac{1}{2}$ acre, 10 to 12 foot deep body of water is usually adequate to

support the average home. The system uses coils of pipe typically 300 to 500 feet in length. The coils are placed in and anchored at the bottom of the body of water.



Open Loop: This system can be installed if an abundant supply of high quality well water is available. A typical home will require 4 to 8 gallons of water per minute. A proper discharge

area such as a river, drainage ditch, stream, pond, or lake must be present. Check for local restrictions before selecting a specific discharge method.

1

The Hydron Module **heavy gauge stainless steel** cabinet is typically two to four gauges thicker than our competitors, ensuring **solid construction that lasts a lifetime.**

2

Hydron Module uses only **Copeland scroll compressors.** This proven compressor technology ensures **better reliability** due to fewer moving parts.

3

Digital controls insure **proper operation** and a variety of field selectable settings for each installation. Advanced safety controls help **protect the equipment.**

4

Hot Water Generator is standard with all Hydron Module units. This allows the capture of free unused heat, **typically cutting hot water costs by 30 - 50%.**

5

Recycled, sound deadening blue jean material is used in the cabinet insulation, as opposed to the industry standard of potentially harmful fiberglass insulation. This enhances the already **quiet operation** of a Hydron Module geothermal system.

6

All Hydron Module units come equipped with an oversized, rifled coaxial water heat exchanger for increased surface area, providing **significantly higher efficiencies** than required by Energy Star® or ASHRAE (American Society of Heating, Refrigeration, and Air-Conditioning Engineers) standard 90.1.

7

Every Hydron Module water-to-water unit is reversible.

Unlike some geothermal units, which only heat water, Hydron Module offers the flexibility of using **chilled water for air conditioning** if desired.



Additional Unit Features

- 10 Year Limited Warranty (2009 or newer models)
- External Run/Fault LEDs
- All Panels Removable For Easy Access
- Available matched hydronic fan coils

Unit Applications

Advanced design allows the W-Series to suit a wide variety of installations.

- Radiant Floor Heating
- Chilled Water (Reversible Operation)
- Domestic Hot Water (Heat Exchanger Required)
- Snow Melt
- Hydronic Air Heating / Cooling

Unit Performance

Water-to-Water Models Single Compressor					
Model	Capacity	Heating		Cooling	
		Btu/hr	COP	Btu/hr	EER
W024	Nominal	21,000	3.7	22,800	18.1
W036	Nominal	31,600	3.7	34,200	18.1
W048	Nominal	44,700	3.6	48,400	17.9
W060	Nominal	50,000	3.5	54,100	17.2
W072	Nominal	61,400	3.3	66,500	16.5
Water-to-Water Models Dual Compressor					
W096	High	89,500	3.5	96,900	17.5
	Low	44,700	3.5	48,400	17.5
W120	High	100,000	3.4	108,300	17.0
	Low	50,000	3.4	54,100	17.0
W144	High	122,800	3.3	133,000	16.0
	Low	61,400	3.3	66,500	16.0



Notes:

Rated in accordance with ISO Standard 13256-2 which includes Pump Penalties.

Heating capacities based on 32°F EST & 104°F ELT.

Entering load temperature over 120°F heating is not permissible. Floor heating is most generally designed for 85°F entering load temperature.



Greenville, IL & Mitchell, SD

info@enertechmfg.com
www.hydrongmodule.com



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