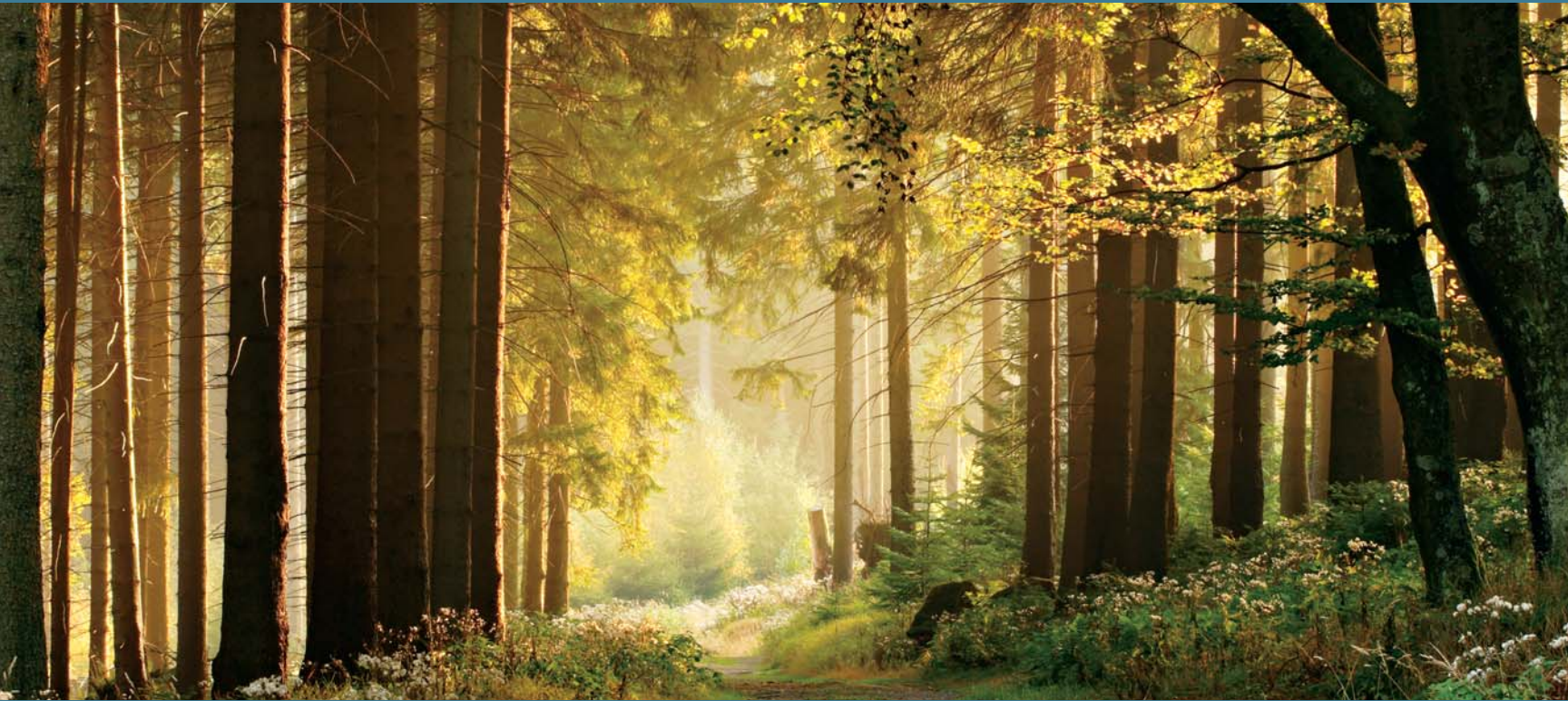


# H-Series

Single & Two-Stage Split Geothermal Heating and Cooling Systems



Geothermal Systems  
**Hydron**  
Module®

[www.hydronmodule.com](http://www.hydronmodule.com)



## **H-Series Single & Two-Stage Split**

Wishing for higher efficiency out of your existing conventional furnace? Look no further than a Hydron Module® geothermal split system. In this application, a geothermal system can be added to your existing furnace. The split system consists of two pieces which are placed in the home near the existing furnace, connected to each other with copper refrigerant lines. The Hydron Module geothermal system provides the first stage of heating for the home and all of the air conditioning. In very cold temperatures, the existing furnace takes over for the geothermal system. While the split system will not completely eliminate the need for fossil fuels such as natural gas, propane, or fuel oil, it will reduce your carbon footprint through reduced fossil fuel usage, and decrease monthly utility bills – all with a lower up-front cost versus a complete geothermal package system. Purely practical, simply an efficient and economical choice.

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

## Why Choose Geothermal?

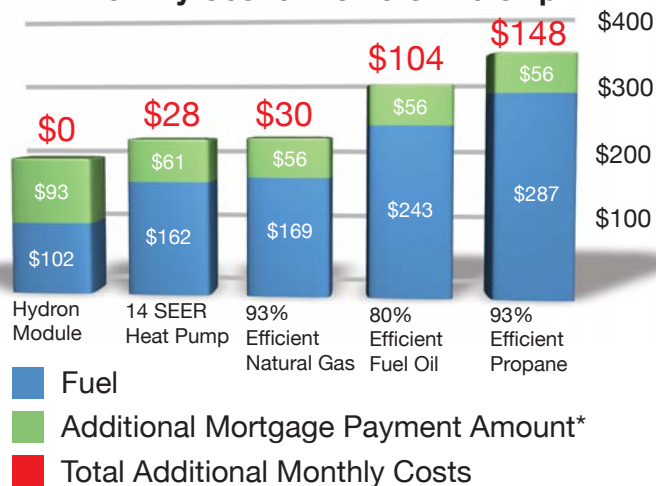
There are a number of different reasons why you and your family should choose a Hydron Module geothermal heating and cooling system for your home. Everyday, more and more homeowners are turning to geothermal for better comfort and lower energy costs.

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

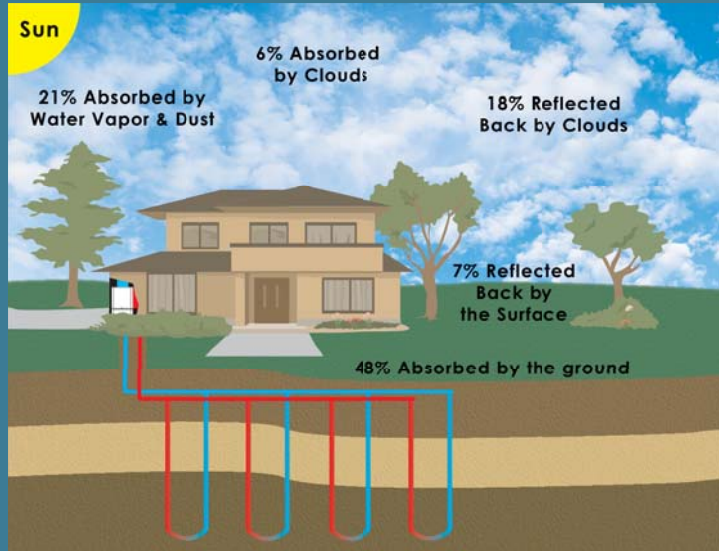
Due to the high installation costs, a new geothermal system will typically have a higher up-front cost versus a conventional system. However, that is only half of the story. Geothermal systems have significantly lower operating costs, which are realized from the very first day the system is in operation. 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.

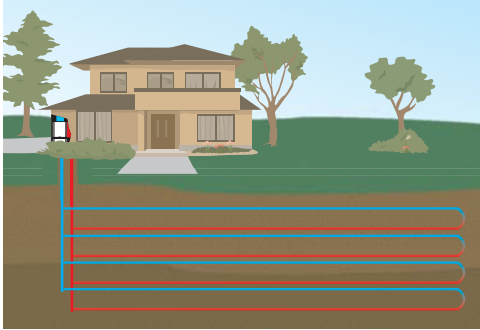
The earth's natural heat is collected in the winter by a series of pipes called a loop system. Fluid circulating in the loop system carries this heat to the home, where it is compressed and released to raise the inside temperature.



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.

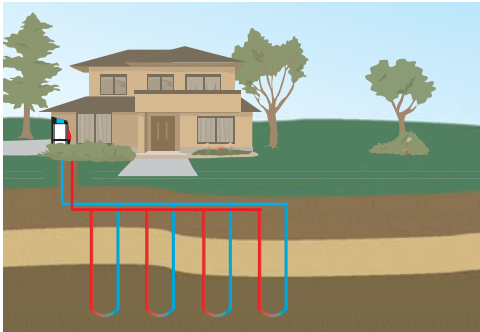
Since most of the energy used for heating and cooling is free from the earth, geothermal systems are the most efficient and environmentally friendly systems on the market today.

## The Heart of the System: Geothermal Earth Loops



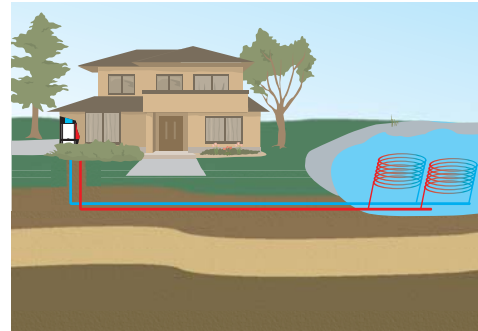
**Horizontal Loop:** This is the most common loop used when adequate land area is available. Loop installers use excavation equipment such as chain trenchers, backhoes and

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.



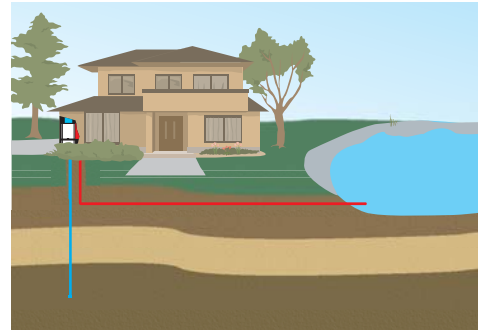
**Vertical Loop:** This loop is used mainly when land area is limited and in retrofit applications of existing homes. A drilling rig is used to bore holes at of depth of 150 to 300 feet per ton. A

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

Only Hydron Module split systems have AHRI (Air-Conditioning, Heating, and Refrigeration Institute) **certified air handler matches** for every model. That means **better performance** and **guarantees the operating efficiency** of the system, which is a requirement for many rebate and incentive programs.

7

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.



## Additional Unit Features

- Solid Brass Service Valves
- 10 Year Limited Warranty (2009 or newer models)
- All Panels Removable For Easy Access
- Flow Switch Protected

## Unit Flexibility

The H-Series Split system offers a number of installation options from new construction to retrofits. With it's compact size, the H-Series can be installed where space is tight, and can be used in many cases with your existing air handler or furnace. Additionally, the Air Handler fits many of the airflow patterns of traditional equipment.

## Unit Performance (Two-Stage)

Model	Capacity	Heating		Cooling	
		Btu/hr	COP	Btu/hr	EER
H026	Full Load	21,000	3.5	27,500	15.1
	Part Load	15,500	4.0	20,300	19.1
H038	Full Load	29,800	3.4	37,400	17.1
	Part Load	19,800	4.3	24,900	22.8
H050	Full Load	43,300	3.3	54,300	16.7
	Part Load	28,700	4.1	36,000	22.6
H062	Full Load	49,500	3.3	62,100	16.5
	Part Load	34,600	4.1	43,400	22.4

## Unit Performance (Single Stage)

Model	Heating		Cooling	
	Btu/hr	COP	Btu/hr	EER
H018	13,300	3.5	16,700	18.0
H024	20,000	3.5	25,000	17.1
H030	25,800	3.5	32,300	17.6
H036	30,000	3.4	37,600	17.1
H042	35,000	3.4	43,800	17.1
H048	42,200	3.3	53,200	16.9
H060	47,600	3.3	59,500	15.4
H072	57,900	3.2	72,000	15.2

### Notes:

Certified in accordance with ISO Standard 13256-1 which includes Pump Penalties.  
 Heating capacities based on 68.0°F DB, 59.0°F WB entering air temperature.  
 Cooling capacities based on 80.6°F DB, 66.2°F WB entering air temperature.  
 Entering water temperatures Full Load & Single Stage: 32°F heating / 77°F cooling.  
 Entering water temperatures Part Load: 41°F heating / 68°F cooling.



# Geothermal Systems **Hydron** Module<sup>®</sup>

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