



WaterFurnace
Smarter from the Ground Up™

Geothermal Comfort System

5 Series 500W11

Single Stage
Hydronic GHP





The 5 Series

Smarter from the Ground Up™

As the upgrade to our popular Envision product line, the 5 Series represents some of our best features and efficiencies. Its advanced components offer a level of comfort and savings that's far greater than any ordinary system and among the geothermal industry's highest.

The 500W11 water-to-water provides hot water for your home and is perfect for pool/spa heating*, radiant floor applications, snow melt, or for 100% domestic hot water. It can reduce your hot water heating costs while providing consistent, even comfort. It's never been easier to upgrade to a water heating system that uses the earth as its fuel source.

*Secondary heat exchanger required



Why Geothermal?

Geothermal is perfect for those who want to dramatically reduce their energy usage, save money on bills, and enjoy a more even, consistent comfort in their home. Over the next few pages we'll tell you a little more about geothermal and show you how you can benefit from a technology that's *Smarter from the Ground Up™*.

Comfort that gives back

Geothermal's benefits

Geothermal heat pumps are not only the most comfortable way to heat and cool, they're also the most cost effective. They're versatile enough to excel in almost any home or any environment, and you'll find geothermal in more than 1 million households across Canada and all 50 U.S. states. They can be scaled for single-family homes to entire college campuses. In fact, we heat and cool our entire 110,000 square-foot headquarters with WaterFurnace equipment. Here are a few reasons why geothermal is one of the fastest growing technologies available for your home.

QUALIFIES ✓ GEO TAX CREDIT

Extra savings for geothermal

A 26% tax credit on equipment and installation costs is currently available to U.S. homeowners who install an ENERGY STAR rated geothermal system. The credit can be used to offset both AMT and regular income taxes and can be carried forward into future years. The 26% tax credit will last until the end of 2020 where it is scheduled to decrease to 22% in 2021. Hurry and act now for the most savings!

30%
THROUGH
2019

26%
THROUGH
2020

22%
THROUGH
2021



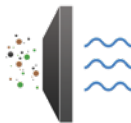
Energy Efficient

WaterFurnace systems are rated number one in energy efficiency because they can deliver almost five units of energy for every one unit of electrical energy used. Compare that to even the best ordinary system that delivers less than one unit of energy for every unit it consumes. That translates into an efficiency rating approaching 500%, compared to the most efficient gas furnace which rates only 98%.



Cost Effective

Because of the extraordinary efficiency of a WaterFurnace system, most homeowners save more on monthly bills than they pay for the system when installation costs are added to the mortgage. Any added investment over traditional equipment is usually recovered in just a few years, and many homeowners see a return on investment of 10-20% over the life of the system.



Clean

Since no fossil fuels are used, 5 Series units are perfect for clean and virtually maintenance free operation.



Environmentally Friendly

Geothermal systems are recognized by the United States Environmental Protection Agency as the most environmentally friendly, cost effective and energy efficient heating and cooling technology available. These systems also minimize the threats of acid rain, air pollution, the greenhouse effect and global warming — problems directly linked to the burning of fossil fuels. In fact, installing a single geothermal unit is the environmental equivalent of planting 750 trees or removing two cars from the road.



Flexible

Available as heating-only or a reversible model, the 500W11 is perfect for radiant floor heating or 100% domestic hot water. Paired with our NAH Air Handler, it can also offer efficient forced air heating and cooling.



Safe

Because natural gas, propane, or oil isn't required to operate a WaterFurnace system, there's no combustion, flames, or fumes and no chance of carbon monoxide poisoning.



Quiet

WaterFurnace systems don't require noisy outdoor units that can disturb your peaceful surroundings or create unsightly additions to your home's appearance. We've taken great steps in keeping your unit as quiet as possible.



Reliable

Because geothermal units aren't subjected to the punishing effects of outdoor weather or fuel combustion, they last longer than nearly any other heating and cooling system. According to the American Society of Heating, Refrigerating, and Air-Conditioning Engineers, geothermal units have an average equipment life of 25 years while the underground loop system has a rated material life of more than 100 years. Ordinary air conditioners, furnaces and heat pumps are rated for only 12-18 years.



Comfortable

5 Series units provide consistent, comfortable heating and can better match the needs of the home during changing outdoor weather.



Using the earth to heat & cool

The geothermal difference

A geothermal heat pump (GHP) taps into the renewable solar energy stored in the ground to provide savings up to 70% on bills. Using a series of underground pipes, it exchanges heat with the earth instead of outdoor air. While air temperatures can vary greatly from day to night or winter to summer, the temperature just a few feet below the earth's surface stays an average 55°-70°F year-round.

Summer cooling

For homes with ductwork, the 500W11 can be paired with the NAH Air Handler to provide your home with efficient, dehumidified cooling. And since there are no outdoor components, you won't have to worry about a noisy air conditioner disrupting your peace and quiet. Cool your home quietly and efficiently with WaterFurnace.

Winter heating

As outdoor temperatures fall, the 500W11 draws from an underground reservoir of heat, concentrates it, and moves it to your home. Meanwhile, an ordinary boiler system is forced to create heat by utilizing gas or oil. That means dirt, fumes, and expensive operation while our systems cleanly and efficiently collect and move heat.

55°-70° *The average year-round ground temperature only three to four feet beneath the frost line.*



Traditional Air Conditioner

Summer air is already saturated with heat and is less willing to accept more. Thanks to the constant temperature of the earth, geothermal is more than twice as efficient at cooling than any ordinary heat pump or air conditioner.



Fossil Fuel Boiler

Ordinary boilers are expensive to operate and can be detrimental to the environment, since they burn fossil fuels. A geothermal system uses the heat from the earth and returns up to five dollars of heat for each dollar spent on electricity. That's because our units don't create heat through combustion. They simply collect and move it.

Note: Illustration represents how geothermal works and is not to scale. Loops are generally 4-6 feet below the earth's surface and between 150-400 feet long.

The heart of a geothermal system

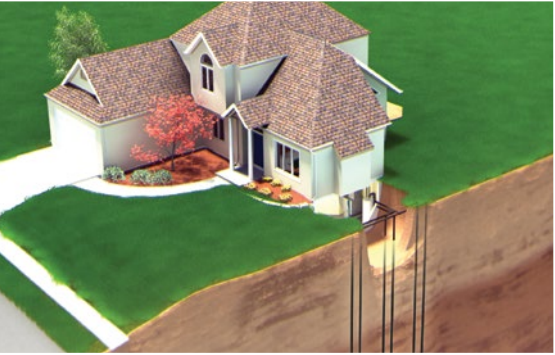
Geothermal earth loops

A geothermal system uses a series of underground pipes called a “loop.” The earth loop eliminates the need for fossil fuels. It’s the heart of a geothermal system and its biggest advantage over ordinary heating and cooling technologies. The type of loop used is based on available land space and installation costs for specific areas.



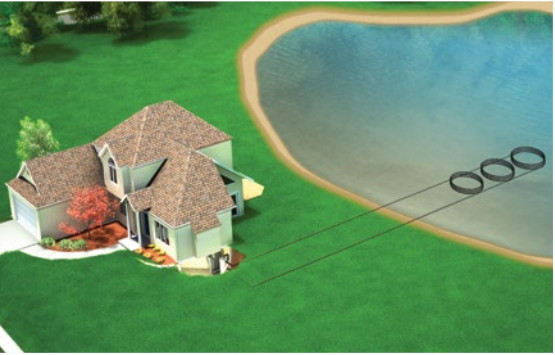
Horizontal Loop

Used where adequate land is available, horizontal loops involve one or more trenches that are dug using a backhoe or chain trencher. High density polyethylene pipes are inserted, and the trenches are backfilled. A typical home requires 1/4 to 3/4 of an acre for the trenches.



Vertical Loop

Vertical loops are used when space is limited. Holes are bored using a drilling rig, and a pair of pipes with special u-bend fittings is inserted into the holes. A typical home requires three to five bores with about a 15-foot separation between the holes.



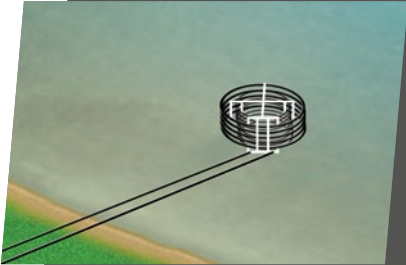
Pond Loop

If an adequately sized body of water is close to your home, a pond loop can be installed. A series of coiled, closed loops are sunk to the bottom of the body of water. 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 WaterFurnace unit. 5 Series units require 3 - 10 GPM, depending on size.



HyperLoop - Pond

Perfect for pond and lake geothermal applications, this prefabricated and compact loop greatly reduces loop build and installation time.



Directional Bore

Perfect for homeowners who need minimal landscape disruption, these loop types take advantage of the space available below ground. A directional bore loop can be installed either vertically or horizontally depending on yard space.

Hydronic heating for the ultimate in comfort and efficiency

The 5 Series technology

Hydronic heating is a versatile, energy efficient solution for conditioning your home. It can be used for 100% generation of a home's hot water, pool & spa heating, or in a radiant floor application for warm toasty floors. Hydronic units can also be paired with an air handler or fan coil to provide forced air heating and cooling to your home.



Domestic Hot Water

Hydronic units are often used as an add-on system to provide 100% of a home's domestic hot water. The 500W11 is much more efficient than a traditional hot water heater since it's using the heat from the earth rather than creating heat by using fossil fuels.



Radiant Floor Heating

In a building with a radiant floor heating system, the entire floor acts as a heat source for the room. Many people consider this method of heating the most comfortable available.



Pool & Spa Heating

The 500W11 is perfect for ultra-efficient pool and spa heating. It uses the heat from the earth to keep your pool and spa nice and warm year-round.

NOTE: Secondary heat exchanger required



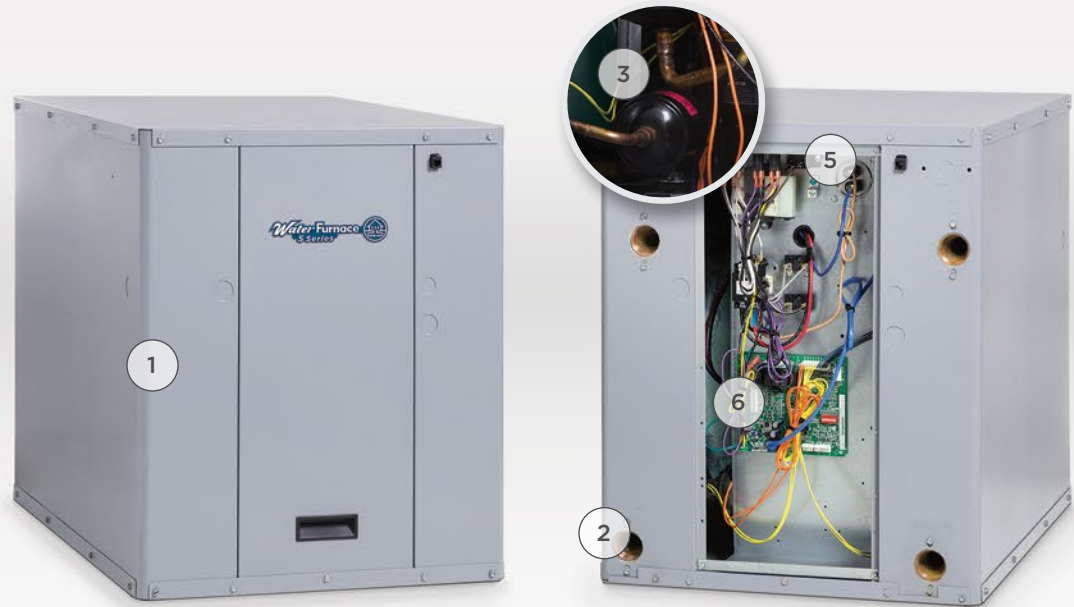
Fan Coils and Air Handlers

Fan coils and air handlers typically have one or two coils and a blower. Air is heated by hot water circulated through the hot water coil. Chilled water is circulated through the coil if air conditioning is needed. Blowers can be provided to fit various applications, with or without ductwork.



Innovations for greater efficiency and reliable comfort

Components of the 5 Series



Design Components:

1. Cabinet: The 500W11 features an insulated and corrosion-resistant cabinet for quiet operation and long-term durability.
2. Water Lines: The 500W11 features flush-mount water connectors to allow for leak-free piping.
3. Discharge Muffler: A discharge muffler is standard on this system to limit noise even more than before. Add that to our double isolation plate mounted top-of-the-line compressors and you'll be able to enjoy the comfort of geothermal in peace and quiet.
4. ThermaShield™: Our exclusive coaxial heat exchanger coating protects against condensation for temperatures below 50°F, extending its life.

ISO/AHRI 13256-2		Closed Loop		Open Loop	
Model & Size		Cooling EER	Heating COP	Cooling EER	Heating COP
018	Single	16.6	3.1	22.9	3.7
025	Single	16.1	3.1	21.2	3.8
040	Single	17.5	3.1	23.4	3.9
050	Single	16.4	3.1	21.6	3.7
060	Single	16.1	3.1	20.6	3.8
075	Single	14.0	2.9	18.0	3.5



5. Field Switchable Control Box: The ultimate in versatility, the 500W11 features a field switchable control box so that the unit can be oriented two different ways. Your dealer can move the control box to the opposite end if that is the most accessible side of the system in your home.



6. Aurora Advanced Controls: The powerful Aurora controls offer two-way communication between components, operating logic, and robust troubleshooting capabilities. Diagnosis and setup are also simplified, making service much simpler for the technician.



7. Compressors: For superb efficiency, all 500W11 units feature scroll compressors. All compressors are double isolation mounted for extra quiet operation.



8. IntelliStart® (Not shown): This optional soft starter reduces start-up amperage by 60% of normal draw to reduce noise, eliminate light flicker, and increase compressor life.

Finishing touches

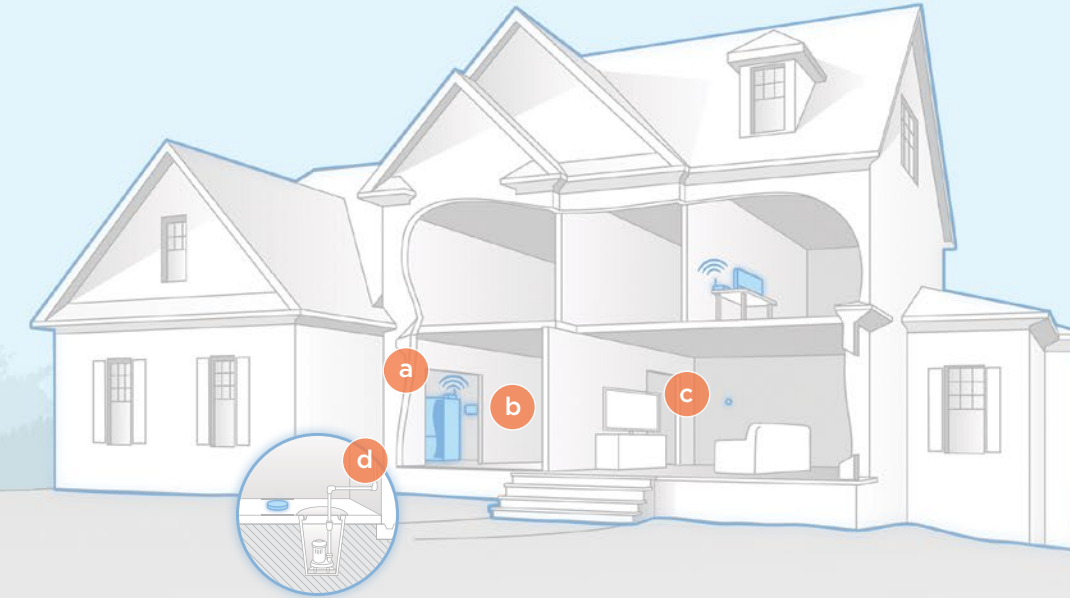
Accessories

Choosing the right accessories can greatly improve the comfort levels in your home and can even allow you to expand the functions of your existing WaterFurnace system. Each item has been designed to work hand in hand with your system to allow flawless and convenient operation. Here are some of our most popular accessories. Visit waterfurnace.com for more.



Radiant heat with HydroLogic

WaterFurnace HydroLogic is a simple, turnkey solution for radiant heating that integrates seamlessly into a WaterFurnace geothermal system. HydroLogic is a pre-piped, pre-wired modular mechanical panel designed to simplify the installation while providing maximum comfort for your home. The mechanical panel supports cooling, dehumidification, and multiple zones of radiant heating.



Symphony Web-Enabled Home Comfort Platform

Imagine a platform that can provide detailed feedback of your comfort system in real-time and the tools to control it all from any web-enabled smart phone, tablet, or computer. That's Symphony. Symphony is a Wi-Fi based comfort platform that's unsurpassed in its ease of use, feature set and the level of information it provides. Symphony marries the Aurora controls of a WaterFurnace geothermal system with our WebLink router, giving you access to the comfort system from practically anywhere. Symphony is cloud-based so there's no software to install and provides control over the entire geothermal system-not just the temperature as in other 'smart thermostat' systems.

- a. Aurora WebLink
- b. Symphony Thermostat
- c. Invisible Thermostat Capability
- d. Water/Sump Alarm



NAH Air Handler

For homes with ductwork, the 500W11 is the perfect solution for central air conditioning when paired with our NAH Air Handler. The Air Handler features a variable speed ECM fan motor for maximum comfort and efficiencies while maintaining a slim cabinet for ease of installation. Combining comfort with versatility, the Air Handler can enhance your 5 Series 500W11 to provide efficient, dehumidified cooling for your home.



HydroStat

The HydroStat is designed to control water temperature in conjunction with our Aurora-based water-to-water systems and water tanks.



GeoTank™

The WaterFurnace GeoTank is simply the best way to capture free preheated water from your unit.



The WaterFurnace name has been synonymous with geothermal since we were founded in 1983. Over the years we've worked to innovate new technologies, integrate key trends and grow our core business to represent clean and sustainable solutions. Our units combine sound engineering with the highest levels of quality control to provide you with some of the most efficient heating and cooling systems on the planet. WaterFurnace—***Smarter from the Ground Up.***

ISO Accreditations:



visit us at waterfurnace.com

