WaterFurnace
Smarter from the Ground Up™

Geothermal Comfort System

7 Series

700A11

The 7 Series

With Variable Capacity Technology

The WaterFurnace 7 Series™ is quite possibly the most advanced heating and cooling system on the planet. It provides homeowners the ultimate in comfort and performance and represents our finest products. This line is for those who accept only the best and is built using the latest technologies and highest standards.

The 700A11 signifies groundbreaking innovations on multiple fronts—most notably as the geothermal industry's first launched variable capacity residential unit and the only unit to surpass both the 43.5 EER *and* 5.1 COP efficiency barriers. These ratings are vastly greater than ordinary conditioning systems and 30% higher than current two-stage geothermal heat pumps. The 700A11 is ENERGY STAR rated and was engineered in the HVAC industry's only in-house *EPA/ENERGY STAR Recognized Laboratory.*

Our Aurora communicating controls work in unison with the variable capacity compressor, variable speed loop pump and variable speed blower motor to offer a level of comfort you have to experience to believe. Best of all, 7 Series units use the stored energy in your yard to provide savings up to 70% on heating, cooling and hot water. We're extremely excited to share it with you.

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

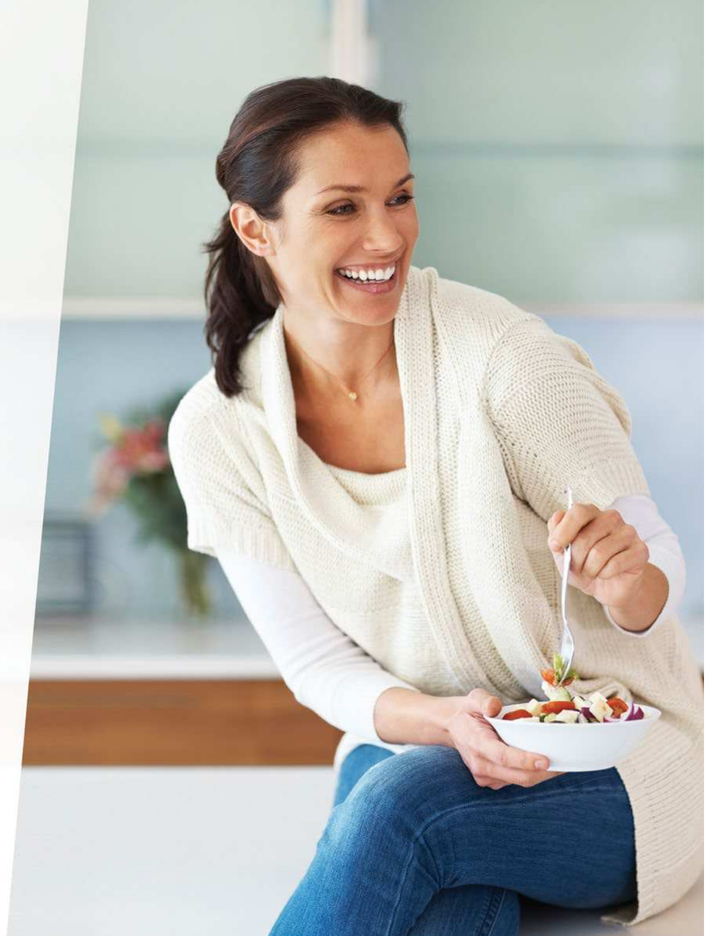
Geothermal heat pumps are not only the most comfortable way to heat and cool, they're also the most cost effective. They're versatile enough to excel in almost any home or any environment, and you'll find geothermal in more than 1 million households across Canada and all 50 U.S. states. They can be scaled 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 2022 where it is scheduled to decrease to 22% in 2023. Hurry and act now for the most savings!

26% THROUGH **2022** | **22%** THROUGH **2023**



Energy Efficient

WaterFurnace systems are rated number one in energy efficiency because they can deliver more than 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 exceeding 530%, compared to the most efficient gas furnace which rates only 98%.

Comfortable

WaterFurnace units are designed to run more often at low speeds to provide stable temperatures throughout the home and help eliminate hot or cold spots. This is especially true with variable capacity units. They provide a comfort you need to experience to believe. To achieve precise control over temperatures in up to 6 areas, add our IntelliZone2 zoning system.

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.

Quiet

WaterFurnace systems don't require noisy outdoor units that can disturb your peaceful surroundings. Even though variable capacity units are generally the quietest products we offer, we've taken a number of steps to make them even more so.

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.

Reliable

Geothermal units aren't subjected to the punishing effects of outdoor weather or fuel combustion, so 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.

Clean Air

Large, high efficiency MERV 11 filters come standard with our units to provide exceptional indoor air quality and protect your family from dust and pollen. WaterFurnace units also circulate air more often, further filtering the air.

Flexible

One compact WaterFurnace unit provides heating, central air conditioning, and supplemental domestic hot water for your entire home. Horizontal, vertical, and bottom-flow configurations are available for a wide range of home applications, including newly constructed as well as existing homes. No matter what climate you live in, your WaterFurnace system will deliver.

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.

Less Obtrusive

WaterFurnace systems don't require conspicuous wall-mounted equipment or outdoor units that create unsightly additions to your home's appearance.

Using the earth to heat & cool

The geothermal difference

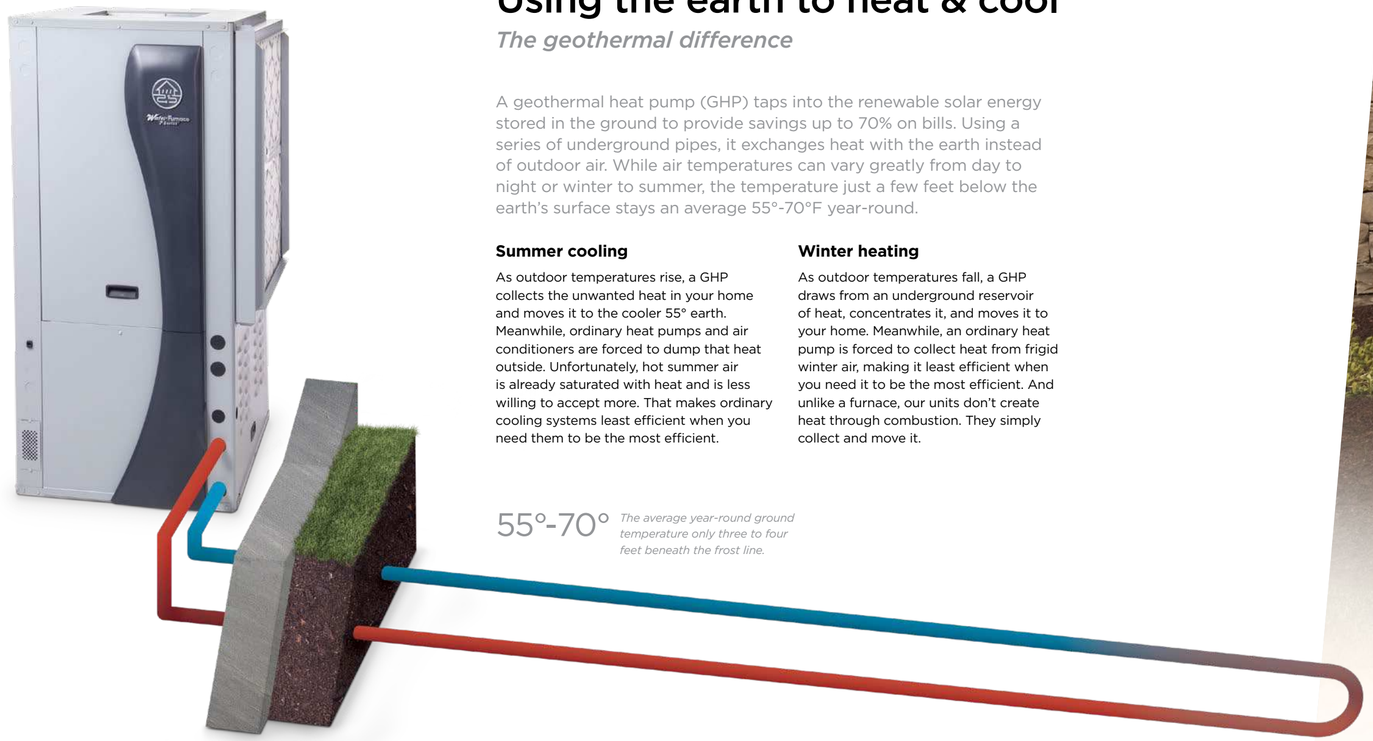
A geothermal heat pump (GHP) taps into the renewable solar energy stored in the ground to provide savings up to 70% on bills. Using a series of underground pipes, it exchanges heat with the earth instead of outdoor air. While air temperatures can vary greatly from day to night or winter to summer, the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

Summer cooling

As outdoor temperatures rise, a GHP collects the unwanted heat in your home and moves it to the cooler 55° earth. Meanwhile, ordinary heat pumps and air conditioners are forced to dump that heat outside. Unfortunately, hot summer air is already saturated with heat and is less willing to accept more. That makes ordinary cooling systems least efficient when you need them to be the most efficient.

Winter heating

As outdoor temperatures fall, a GHP draws from an underground reservoir of heat, concentrates it, and moves it to your home. Meanwhile, an ordinary heat pump is forced to collect heat from frigid winter air, making it least efficient when you need it to be the most efficient. And unlike a furnace, our units don't create heat through combustion. They simply collect and move it.



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

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.

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 Furnace

Ordinary furnaces return less than 98¢ of heat for each dollar spent burning polluting fossil fuels, while a geothermal system 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.

The heart of a geothermal system

Geothermal earth loops

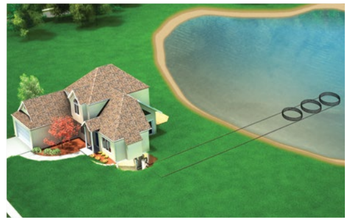
A geothermal system uses a series of underground pipes called a “loop.” The earth loop eliminates the need for fossil fuels. It’s the heart of a geothermal system and its biggest advantage over ordinary heating and cooling technologies. The type of loop used is based on available land space and installation 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, minimum 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. 7 Series units require as low as 3-10 GPM, depending on size.

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.

The only HVAC system you'll actually love

The 7 Series Technology

In addition to being the world's most efficient heat pump, the 700A11 uses our exclusive variable capacity technology to provide comfort unlike any system you've ever experienced. While other conditioning systems run at one or possibly two capacities (high and low), the 700A11 scales compressor output and airflow to exactly the level needed for any heating or cooling situation.

The 7 Series can ramp down to 20% of normal operation for the ultimate efficiency and comfort or scale up to 130% output using SuperBoost™ cooling. Our exclusive SuperBoost mode is for those brief periods when extra conditioning is needed and ensures guests stay cool and comfortable during summer get-togethers. And because the 700A11 operates over the industry's largest range of capacities (from 20-130%), it provides unmatched humidity control and can even eliminate the need for auxiliary heat in cold-weather climates.

Every 7 Series unit is computer run-tested to ensure flawless performance at start-up—and in the unlikely event it needs to be serviced, your unit is backed by one of the best warranties in the industry. This groundbreaking unit is a testament to our internal resources and the culture we've built here at WaterFurnace.

Inspired engineering creates products that inspire

Components of the 7 Series

Design Components:

1. Cabinet: The cabinet comes with a professional grade finish for long-lasting beauty and protection. The system is fully insulated for quiet operation with cleanable foil-backed insulation.

2. Advanced Hot Water Generation: With an optional hot water assist, the 7 Series preheats your water and delivers it to your water heater. A sophisticated microprocessor controls and monitors heat pump conditions and determines when there is excess heat available to route to the hot water heater. This allows you to utilize heat in the most efficient way possible.

3. All-Aluminum PinnaCoil™: Our exclusive all-aluminum PinnaCoil has anti-corrosive properties with an advanced tubing design that increases performance and provide a lower operating cost than alternatives.

4. Aurora Interface Diagnostic Port: WaterFurnace is the first to offer an external communication port, which allows service and diagnosis of our units without ever having to open them.

5. ThermaShield™: Our exclusive coaxial heat exchanger coating protects against condensation for temperatures below 50°F, extending its life.

6. Aurora UPC Controls (not shown): The Aurora UPC controls communicate directly with the Aurora Base Controller in the 7 Series, allowing for operation and control of the system—along with other home components for streamlined whole-house operation.

ISO/AHRI 13256-1

		Closed Loop		Open Loop	
	Model & Size	Cooling EER	Heating COP	Cooling EER	Heating COP
036	Full Load	21.6	3.5	31.2	4.5
	Part Load	39.0	5.1	50.0	5.9
048	Full Load	20.0	3.4	30.0	4.0
	Part Load	43.5	5.1	56.0	6.0
060	Full Load	19.1	3.4	27.1	4.3
	Part Load	40.0	5.1	55.0	5.8

ENERGY STAR Most Efficient 2021 www.energystar.gov

AHRI CERTIFIED www.ahridirectory.org Water Source HP AHRI/ANSI/ISO/ASHRAE/ISO13256-1

7. Variable Capacity Compressor: WaterFurnace was the first geothermal brand to offer two-stage units. Now, we're the first to launch residential variable capacity units. Variable capacity compressors offer soft start capabilities and gently ramp up to speed for quiet operation while also eliminating light flicker.

8. Aurora Controls: Aurora Controls offer full two way communication between components, advanced operating logic and robust troubleshooting capabilities. It carries support for true energy monitoring, extended hot water generation control and integration with our IntelliZone2 zoning system. Incorporating the Aurora Web Link (AWL) module also extends communication protocols to include the internet, smart grids, home automation networks and more.

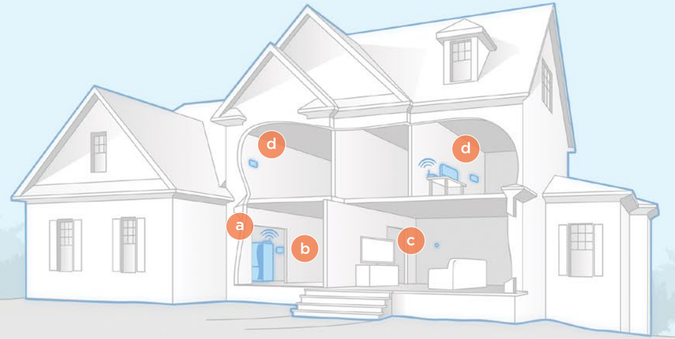
9. Blower Motor: WaterFurnace was the first to offer variable speed blowers for geothermal equipment, and now we're improving upon that by adding two way communication capabilities. A variable speed ECM motor runs at only the speed needed for maximum efficiency and savings. When Active Dehumidification is enabled, our Aurora Controls optimize the blower to maximize moisture removal.

10. Filter and Filter Rack: Pleated MERV 11 filter is standard while an optional pleated MERV 13 is available for improved air quality. Filter rack holds 1" or 2" filters and is field convertible.

Finishing touches

Accessories

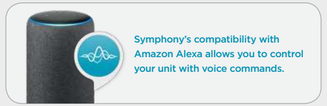
Choosing the right accessories can greatly improve the comfort levels in your home and can even allow you to expand the functions of your existing WaterFurnace system. Each item has been designed to work hand in hand with your system to allow flawless and convenient operation. Here are some of our most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



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. Advanced Zoning System



Symphony's compatibility with Amazon Alexa allows you to control your unit with voice commands.

Note: Depending on the control package not all Symphony features may be available.

TPCC32U01 Deluxe Touch-Screen

A beautiful communicating color touch-screen thermostat that provides intuitive comfort control. This programmable thermostat can also provide instantaneous and 13 month energy monitoring history.* The TPCC32U01 features 3 heat and 2 cool stages, dual fuel capabilities, Comfort Talk error communication, humidity control, outdoor sensors and more.

** Energy monitoring requires our AXB advanced controls.*

TPCM32U04A Elite Programmable

This powerful thermostat is great for any system. It allows dual fuel capability, winter humidity control, text based output and Comfort Talk error communication.

IntelliZone2®

The IntelliZone2 allows you to precisely control temperatures in up to four different areas with our dual capacity systems and up to six different areas with our variable capacity equipment. The result is the ultimate in comfort and cost savings. You've already chosen the finest heating and cooling system available; now choose the most advanced zoning system available to control it.

The IntelliZone2 24V option is also available for any WaterFurnace system not equipped with Aurora Advanced (AXB) Controls.

GeoTank™

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

**GeoTank is to be used in series with another hot water heater to maximize hot water generation capacity.*

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:

Registered ISO 9001:2008 Company

Accredited ISO 17025 Laboratory

Certified ISO 14001:2004 Company

WaterFurnace® *Smarter from the Ground Up™*

visit us at ***waterfurnace.com***

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BR2700AN 01/21