7 Series
700R11
Geothermal Comfort System
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™.

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 7 Series signifies groundbreaking innovations on multiple fronts - and now we’re offering it in a split configuration for flexibility in installation. With incredible efficiency ratings surpassing 40.8 EER and 5.2 COP, the 7 Series Split is vastly more efficient than ordinary conditioning systems and 30% more efficient than current two-stage geothermal heat pumps. The 700R11 is ENERGY STAR rated and was engineered in the HVAC industry’s only ISO 17025:2017 accredited Laboratory.

Our Aurora communicating controls work in unison with the variable capacity compressor, variable speed loop pump, and variable speed blower motor in the air handler 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.

The 7 Series 700R11
Indoor Split with Variable Capacity Technology

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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 100,000 square-foot headquarters with WaterFurnace equipment. Here are a few reasons why geothermal is one of the fastest growing technologies available for your home.

Safe
Because no natural gas, propane, or oil is used in a geothermal installation, it’s the safest method of heating and cooling available for your home.

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. 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.

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.

Quiet
WaterFurnace systems don’t create heat—they simply move it to and from the earth. Since there are no fossil fuels, geothermal comfort is the cleanest method of heating and cooling available today.

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.

Cost Effective
Because of the extraordinary efficiency of WaterFurnace systems, 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 a few years, and many homeowners see a return on investment of 10-20% over the life of the system.

No Fossil Fuels
When installed with a WaterFurnace Air Handler, no fossil fuels are used in a 700R11 installation. WaterFurnace systems don’t create heat—they simply move it to and from the earth. Since there are no fossil fuels, geothermal comfort is the cleanest method of heating and cooling available today.

Flexible
One compact WaterFurnace unit provides heating, central air conditioning, and supplemental domestic hot water for your entire home. Indoor splits 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.

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 520%, compared to the most efficient gas furnace which rates only 98%.

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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.

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

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

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. 7 Series units require 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 7 Series SVH Air Handler—Engineered for the 700R11

WaterFurnace 7 Series Splits are engineered for homes with limited utility space or that require multiple units. While the 700R11 is perfect for providing heating, cooling, and hot water to the entire building, it can also be added to a packaged 7 Series 700A11 for improved humidity and temperature control in hard-to-condition areas like an upstairs bedroom or basement. In either case, a 7 Series is the most efficient way to condition any home and is a smart investment for your family.
Compact design meets ultimate performance

Components of the 7 Series 700R11

Design Components:

1. Cabinet: The cabinet comes standard 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. 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.

3. Hot Water Generation: With an optional hot water assist, the 7 Series 700R11 preheats your water and delivers it to your water heater. The longer the unit operates, the greater the amount of hot water generated.

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

5. Variable Capacity Compressor: WaterFurnace was the first geothermal brand to offer residential variable capacity units. Variable capacity compressors offer soft start capabilities and gently ramp up to speed for quiet and efficient operation.

6. Aurora Controls: The powerful Aurora Controls offer two-way communication between components, advanced operating logic, and robust troubleshooting capabilities. Aurora also adds support for true energy and performance monitoring as well as compatibility with the Symphony Home Comfort Platform and our IntelliZone2 zoning system.

7. Split Configuration: The 700R11 was designed to operate exclusively with the SVH Air Handler. It features an ECM blower motor for the ultimate in efficiency and electric backup heat for those rare instances when you need an extra boost of heating. It’s field-convertible and offers quiet and efficient comfort.

ISO/AHRI 12256-1

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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.

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.

**Finishing touches**

**Accessories**

- **TPCM32U03/04 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.

- **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.*

- **TPCC32U01 Deluxe Touch-Screen**
  - A beautiful communicating color touch-screen thermostat that provides intuitive comfort control. The 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.

- **IntelliZone2®**
  - The IntelliZone2 gives you the power to precisely control temperatures in up to 4 different areas with our dual capacity systems and up to 6 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.

- **SVH Air Handler**
  - The SVH Air Handler was engineered specifically for the 700R11 and is required for operation. The SVH features an electronically adjustable valve and variable speed ECM fan motor for maximum control and efficiencies while maintaining a slim cabinet for ease of installation. Combining comfort with efficiency, the SVH Air Handler can help you maintain a more comfortable home with the 700R11 to provide the ultimate in heating and cooling for your home.
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 Accreditation and Certifications: