

# ENVISION™

GEOHERMAL COMFORT SYSTEMS  
NS SERIES OUTDOOR SPLIT UNITS



**WaterFurnace®**  
Smarter from the Ground Up™





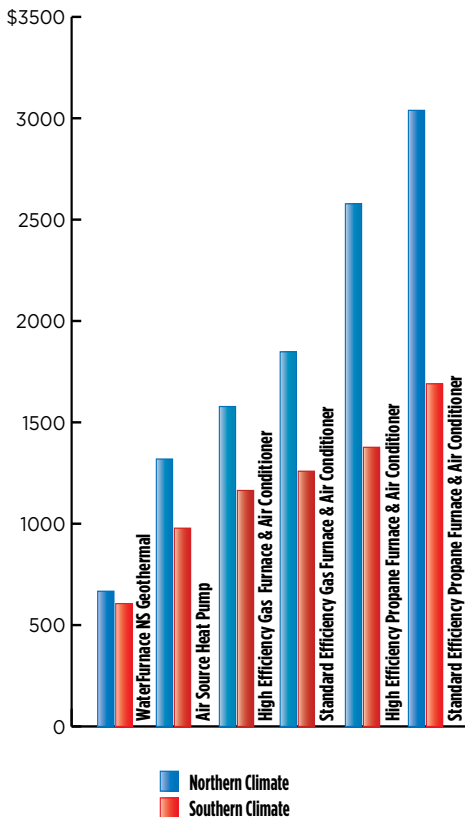
## SMARTER FROM THE GROUND UP

WaterFurnace systems use the Earth's ability to store heat energy as the source for high efficiency heating and cooling. Using advanced technology, WaterFurnace systems tap into that stored energy to provide comfort for your home year round. Heat energy is collected and transferred to the ground and back through an earth loop—an underground piping system. You'll save money, experience amazing comfort, and enjoy safe, quiet operation with a system that's environmentally friendly. That's why it's **"Smarter from the Ground Up"**.

### COMPARE THE PERFORMANCE

Owners of WaterFurnace Outdoor Split units will experience significant energy savings without sacrificing comfort. Ordinary heating and cooling systems operate at a fraction of the efficiency of geothermal systems. And with skyrocketing costs of natural gas, propane and fuel oil, future savings using geothermal technology could be even greater.

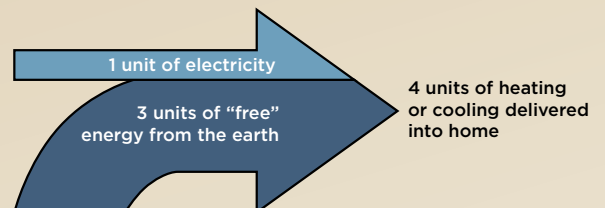
YEARLY OPERATING COSTS



### GEOHERMAL BENEFITS

#### ENERGY EFFICIENT:

WaterFurnace Envision systems are simply the most efficient heating and cooling systems available. They can deliver an astounding four dollars of energy for every dollar of electrical energy used. That translates into an efficiency rating of 400 percent, compared to the most efficient gas furnace, which rates only 97 percent.



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#### COST EFFECTIVE:

Because of the extraordinary efficiency of a WaterFurnace system, any added investment related to installing a geothermal unit is usually more than offset by your energy savings. In new homes, most homeowners will experience an immediate positive return on their investment when the system cost is added to the mortgage. In replacement installations, homeowners find that any added investment over the cost of an ordinary system is generally recovered in energy savings in less than five years.

#### COMFORTABLE:

WaterFurnace systems provide consistent, comfortable heating and cooling. You can even regulate independent temperatures in different areas of your home with an optional zone control system.

#### RELIABLE:

The WaterFurnace reputation for reliability has been earned by using only the highest-quality components, design and workmanship.

#### PEACE OF MIND:

WaterFurnace units are backed by the best warranties in the industry. Your geothermal unit will provide many years of dependable operation.

#### QUIET:

WaterFurnace systems don't require noisy outdoor units that create unsightly additions to your home's appearance.

#### SAFE:

Because natural gas, propane or oil is not required to operate a WaterFurnace unit, there's no combustion, flames or fumes and no chance of carbon-monoxide poisoning.

#### FLEXIBLE:

One compact WaterFurnace unit provides heating, central air conditioning and supplemental domestic hot water.

#### CLEAN:

High-efficiency air cleaners found in WaterFurnace systems keep your indoor air quality clean, removing dust and pollen so you can breathe easier.

#### ENVIRONMENTALLY FRIENDLY:

Installing a WaterFurnace system is the environmental equivalent of planting 750 trees or removing two cars from the road. Because the WaterFurnace system doesn't burn fossil fuels, no emissions or harmful greenhouse gases are released into the air.

## ENVISION NS TECHNOLOGY

WaterFurnace geothermal systems feature advanced technology and innovative components to provide a safe, clean way to heat and cool your home. NS Series units provide installation flexibility with the capability to be installed with either an air handler or a fossil fuel furnace for a “dual fuel” application. For installations that require an aesthetic touch, an optional decorative faux rock cover is available in four colors.

### R-410A REFRIGERANT & DUAL CAPACITY COMPRESSORS

NS units utilize R-410A, an environmentally safe, performance-enhancing refrigerant that does not harm the Earth’s ozone layer. All NS Series units feature dual capacity compressors. During mild temperatures, the compressor runs in first stage. Operation automatically shifts to second stage (full capacity) on the coldest and hottest days. You benefit by having better dehumidification in the summer, more even and consistent temperatures throughout the home, and increased energy savings.



## ENVISION NS DESIGN:

**CABINET:** The cabinet is made of heavy-gauge galvanized sheet metal finished with a durable powdercoat finish for long lasting beauty and protection. It is fully insulated for quiet operation. Loop piping can be easily connected through an opening in the bottom of the cabinet.

**REFRIGERANT SYSTEM:** During manufacturing, all refrigerant line brazing is performed in a nitrogen atmosphere to eliminate oxidation inside the lines. Units are deep evacuated to less than 150 microns. All joints are helium leak tested. External connections and a precise factory charge of refrigerant make the NS easy to attach to the air handler or condenser coil in a fossil fuel furnace.

**COMPRESSOR:** Copeland UltraTech Scroll™ compressors are featured in all Envision products because of their superb efficiency and reliability. The compressors are mounted on isolation grommets for extra quiet operation.

**CONTROLS:** Sophisticated microprocessor control sequences components to provide ultimate performance. Onboard diagnostics allow for easy service. Freeze protection switch cycles loop pumps when unit is off during cold outdoor temperatures.

**LOOP PUMPS:** Because the unit is located outside, the flow center is conveniently mounted within the cabinet, eliminating the need for any indoor loop piping. The earth loop pipes enter the unit through an opening in the bottom panel (not shown).

**SPLIT CONFIGURATION:** Envision Series NS units provide installation flexibility with its capability to be installed as a remote condenser system. Mating to a 2nd floor air handler can provide a quiet and worry free installation for upper floors. Mating to a remote coil on a fossil furnace provides an excellent geothermal add-on heat pump system.

**R-410A:** R-410A is an environmentally friendly, non-ozone-depleting refrigerant that enhances efficiency and savings.

### ENERGY STAR RATED/AHRI CERTIFIED/ETL LISTED:

WaterFurnace Envision Series Units are performance-certified by the AHRI, safety listed by ETL and exceed performance standards for the ENERGY STAR rating when mated to a WaterFurnace Air Handler.



NS Unit	First Stage		Second Stage	
	EER	COP	EER	COP
Dual Capacity Units	20.0 - 25.3	3.8 - 4.4	15.0 - 17.1	3.4 - 3.9

EER (Cooling Efficiency Rating) COP (Heating Efficiency Rating) Based upon Certified AHRI/ISO 13256-1 Ground Loop Performance



QUALIFIES ✓  
**30% TAX CREDIT**  
(Air Handler required)

## GEOTHERMAL LOOP TYPES

WaterFurnace dealers are trained to determine the best type of earth loop to use in any situation. The type of loop used is based on available land space and installation costs for specific areas.



### 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.



### HORIZONTAL LOOP

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



### 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. Envision units require 3 - 10 GPM, depending on size.

## ACCESSORIES

WaterFurnace offers several innovative options and accessories to get even more out of your system. These features can increase your system's value, simplify its operation and improve its efficiency.



### INTELLIZONE™

With IntelliZone, you can control the temperature in up to four zones throughout your home. Zoning precisely controls comfort in each room while lowering your energy bills.



### THERMOSTATS

A large variety of digital and programmable thermostats are available to ensure accurate control of your system's operation, maintaining precise comfort levels throughout your home.



### DEDICATED AIR HANDLER

The WaterFurnace Air Handler was engineered specifically for use with our geothermal split systems. Its narrow size and unique features makes installation in a variety of applications easy.



### INDOOR AIR QUALITY

Remove stale air from the home with a Heat Recovery Ventilator. Also available are several high efficiency filters to remove dust, smoke, odors, bacteria, allergens and pollen.

## WATERFURNACE— THE SMART DECISION

WaterFurnace is dedicated to providing you with safe, reliable and energy-efficient heating and cooling systems that save you money while helping protect our environment. Our engineers and technicians work to create and build quality geothermal products that are extensively tested to ensure the highest quality. An industry leader and an innovator in geothermal technology—WaterFurnace. *Smarter from the Ground Up.*



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waterfurnace.com | (800) GEO-SAVE