

# ENVISION™

GEOTHERMAL COMFORT SYSTEMS  
ENVISION NSW 1.5-6 TON HYDRONIC UNITS



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





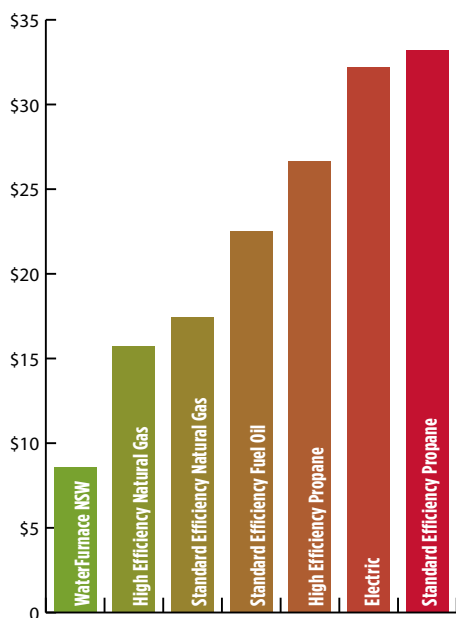
## SMARTER FROM THE GROUND UP

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".

### A NEW STANDARD IN PERFORMANCE

The Envision NSW Series can reduce water heating costs by as much as 60% per year. Ordinary boilers and water heaters operate at a fraction of the efficiency of the NSW Series. With skyrocketing costs of fossil fuels, savings potential will only increase. The graph below illustrates comparisons of various water heating systems.

Cost per million BTUs of hot water

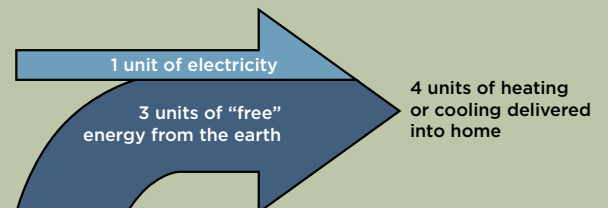


Based on fuel rates of:  
 \$0.09/kWh Electric  
 \$1.26/ccf Natural Gas  
 \$2.06/gallon Propane & Fuel Oil  
 2000 ft<sup>2</sup> home in Indianapolis, IN w/4 occupants

### GEOHERMAL BENEFITS

#### ENERGY EFFICIENT:

Our Envision NSW Series units are some of the most efficient heating and cooling systems available. They can deliver almost four dollars of heat for every dollar of electrical energy used. That translates into an efficiency rating of 400 percent, compared to the best ordinary furnace that delivers less than 97 cents of energy for every dollar spent on expensive fossil fuels.



#### 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 expense over the cost of an ordinary system is generally recovered in energy savings in less than five years.

#### COMFORTABLE:

WaterFurnace NSW Series units provide consistent, comfortable heating when used in radiant floor applications. 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 for radiant floor, domestic/potable purposes, pool/spa heating or snow/ice melt applications. In addition, NSW units are capable of providing chilled water for cooling applications. No matter what climate you live in, your WaterFurnace system will deliver.

#### ENVIRONMENTALLY FRIENDLY:

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



**RADIANT FLOOR HEATING**— Experience luxurious comfort throughout the room from head to toe. Floors are kept toasty warm, even on the coldest days.

**DOMESTIC HOT WATER**— Homes with large demands for domestic or potable water heating will benefit from the exceptional efficiency of NSW units. When used in conjunction with another WaterFurnace geothermal unit to condition the air inside the home, the complete system provides the ultimate in savings, comfort and safe, reliable, quiet performance.

**POOL HEATING**— NSW units can also be utilized to heat water for pools and spas for much less than an ordinary pool heater.\*

**SNOW & ICE MELT**— Keep your sidewalks or driveway free of ice and snow during the cold winter months. Eliminate the hazards of walking on ice-covered sidewalks, and reduce the need to shovel snow.



## THE NSW SERIES DESIGN:

Envision NSW Series products are designed to combine the comfort and versatile installation associated with hydronic heating and cooling, with the technology and efficiency associated with our Envision line.

- 1 **CABINET:** The NSW unit cabinet is fabricated from heavy gauge steel with a durable metallic finish for long lasting beauty and protection. Control panels that can be placed on either end allows piping to be located on the front or at the back and improves serviceability.
- 2 **CONTROLS:** A microprocessor controls the load pump, source pump and compressor by sampling tank temperatures within the GeoTank (see back page). A robust controller enables the user to view all modes of operation and easily adjust temperatures. All fault conditions are monitored by the controller to ensure safe, reliable operation. Although sophisticated in its operation of the unit, the control is easy to adjust using a single mode button, up/down arrows for temperature setting, and a LCD screen which displays current temperature and settings.
- 3 **INSULATED COAXIAL HEAT EXCHANGER:** NSW heat exchangers are coated with our exclusive ThermaShield™ foam insulation. ThermaShield takes the place of traditional taping and increases both efficiency and consistency of our heat exchangers. Robotic application ensures an even, airtight seal, while the WaterFurnace names ensures it's environmentally safe.
- 4 **COMPRESSOR:** High efficiency scroll compressors are used to reduce operating costs and provide years of reliable operation. Sound attenuating compressor blankets and double-isolation mounting plates are used in every unit for quiet operation.
- 5 **HOT WATER ASSIST:** Larger NSW units can include a Desuperheater (hot water assist function) to provide supplemental heating of potable water while simultaneously providing space heating (depending on the application).
- 6 **INTELLISTART®:** This optional soft starter reduces start-up amperage by up to 60% of normal draw to reduce noise, eliminate light flicker, and increase compressor life.

**FACTORY QUALITY:** Stringent standards ensure NSW units include only the finest components, and are assembled according to detailed quality control procedures by skilled technicians. Each unit is computer run-tested to ensure proper performance.

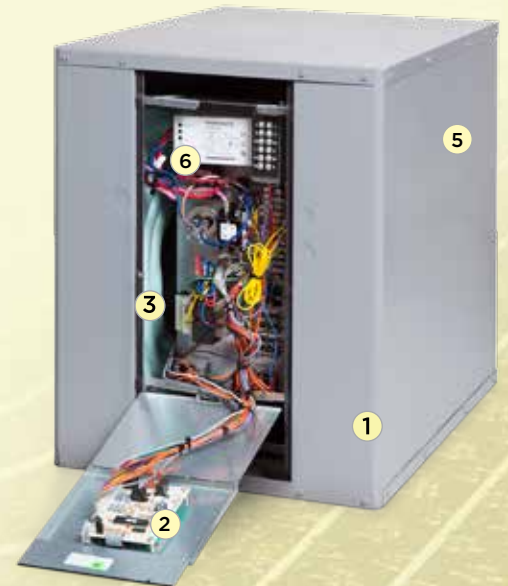
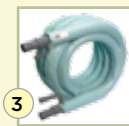
**R-410A:** Environmentally friendly R-410A refrigerant is used in all NSW units.

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

Envision Series NSW Units are performance-certified by the AHRI, safety listed by ETL and exceed performance standards for ENERGY STAR rating (O18, O25, O40, O50 and O60 models).

### The HydroZone tank controller accessory

is made to be used in conjunction with our GeoTank. It adds advanced features like Outdoor Reset (sampling outdoor temperatures to better regulate tank conditions) and Unit Staging (sequencing multiple units for peak performance) that save energy and money.



Envision NSW	COOLING	HEATING
Closed Loop	14.0 - 17.5 EER	2.9 - 3.1 COP
Open Loop	18.0 - 23.4 EER	3.5 - 3.9 COP

Based upon Certified ARI/ISO 13256-2

\*Note: Not suitable for direct use with chlorinated water.



QUALIFIES ✓  
**30% TAX CREDIT**  
(most models)

## 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.



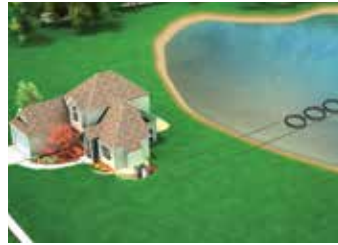
### VERTICAL LOOP

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.

## RADIANT FLOOR HEAT



Photo courtesy of Hixson.



Many Envision NSW Series owners use their unit to provide hot water for radiant heat. These systems offer exceptional comfort without moving air. Not only is the floor kept toasty warm, but the entire floor radiates heat to the occupants, furnishings and the air. Use the Envision NSW Series in combination with our WaterFurnace GeoTank. The GeoTank is simply the best way to capture preheated water from your unit. Engineered specifically for your WaterFurnace geothermal system, the GeoTank includes unique features that make installation and operation easy.

## 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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