



GT/GS SERIES



# HEAT THERMAL

HEATING AND AIR

CONDITIONING EQUIPMENT



# The Industry Leader



FHP Manufacturing is dedicated to building quality heating and cooling products designed specifically with your home in mind. Our commitment to deliver the highest quality water source and geothermal systems is the primary focus of our entire management and engineering staff. For nearly three decades Florida Heat Pump has manufactured quality heating and cooling equipment for both residential and commercial applications and continues to be the industry leader.

Florida Heat Pump (FHP) is one of the only heating and air conditioning manufacturers dedicated solely to water source and geothermal technology. This dedication shows in each individual unit that is produced in our nearly 100,000 Ft<sup>2</sup> facility in Fort Lauderdale, Florida. FHP delivers equipment to all corners of the world and continues to be the model of reliability while maintaining the best "quick ship" production facility in the industry.

FHP has the same management team since our origin in 1969, which provides our company the stability in the marketplace that no other manufacturer can match. All of our products are safety listed by Underwriters Laboratories Inc. (UL) and performance certified by the Air-Conditioning & Refrigeration Institute (ARI) for your piece of mind. FHP offers a wide range of equipment sizes, cabinet configurations, and factory installed options that provide the versatility to meet your needs. We offer vertical, horizontal, counter-flow, and split system forced air models as well as water to water hydronic equipment. You can relax in year round comfort and enjoy energy savings with Florida Heat Pump products.

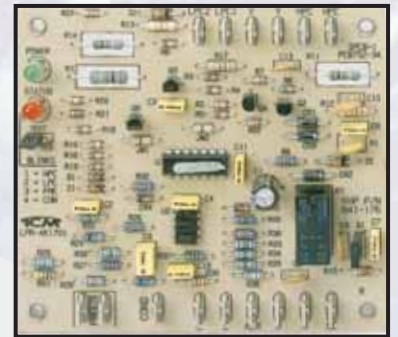
FHP understands that your purchase of a water source or geothermal heating and air conditioning system is a major expense and before you make any major purchasing decision you should do your homework, therefore we encourage you to visit the following web sites for extensive information about this technology and how it can help you.

[www.fhp-mfg.com](http://www.fhp-mfg.com)  
[www.geoexchange.org](http://www.geoexchange.org)  
[www.igshpa.okstate.edu](http://www.igshpa.okstate.edu)  
[www.epa.gov/appdstar/hvac/geothermal.html](http://www.epa.gov/appdstar/hvac/geothermal.html)  
[www.eren.doe.gov/geothermal](http://www.eren.doe.gov/geothermal)

**FHP Manufacturing Company (Florida Heat Pump)**  
Geothermal Heat Pump Consortium  
International Ground Source Heat Pump Association  
U.S. Environmental Protection Agency  
U.S. Department of Energy

## GT/GS Series Features Solid State Controls At An Affordable Price

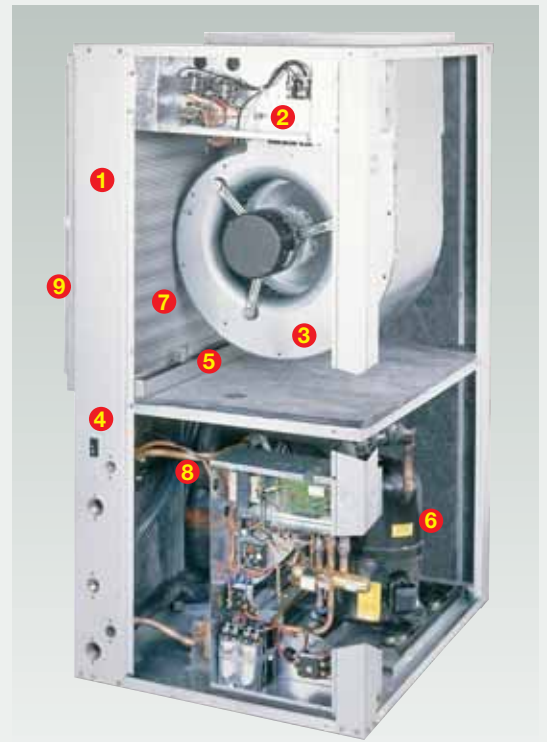
The UPM Solid State controller is designed to enhance the operation and add to the features of traditional electromechanical controls. The UPM controller incorporates the standard functions of the electromechanical controls while adding several useful features commonly needed in water source and geothermal heat pump applications.



- **RANDOM START** - Each controller has a unique random start feature programmed into its microprocessor.
- **ANTI-SHORT CYCLE TIMER** - 5 minute delay on break timer to prevent compressor short cycling.
- **LOW PRESSURE BYPASS TIMER** - Bypasses the low pressure switch for 90 seconds to avoid nuisance lockouts during cold start up.
- **HIGH PRESSURE SWITCH DELAY** - One (1) second delay provides switch stabilization on start up to prevent nuisance lockouts.
- **BROWNOUT/SURGE/POWER INTERRUPTION PROTECTION** - a 20 millisecond window is monitored for the above condition. After the condition is detected the 5-minute delay on break timer is initiated in conjunction with the random start timer before a restart is allowed. This allows for the water pumps to restart and establish water flow to prevent nuisance lockouts during brief power interruptions.
- **MALFUNCTION OUTPUT** - The controller has a set of wet contacts for remote fault indication.
- **TEST/SERVICE PIN** - A jumper PIN is provided to reduce all time delay settings to 6 seconds during troubleshooting or operation verification.
- **L.E.D. INDICATORS** - Two L.E.D. INDICATORS are provided as follows:  
GREEN: Power L.E.D. indicates voltage is present at the board.  
RED: Fault indicator will blink code.
- **INTELLIGENT RESET** - If a fault condition is initiated the 5 - minute delay on break time period and the random start timer are initiated and the unit will restart after the delays expire. If the same fault condition is initiated a second time, the unit will be locked out and requires lockout reset.
- **LOCKOUT RESET** - Power must be removed from the controller then reapplied for the reset. This can be achieved via the thermostat or by the unit disconnect.

# GT/GS Series Features

- 1) Heavy gauge Galvalume® plus finish cabinet with corrosion-resistant aluminum-zinc alloy and a clear acrylic coating for additional protection.
- 2) Optional factory installed and wired emergency electric heater.
- 3) Oversized blower with dynamically balanced wheel for whisper Quiet Operation.
- 4) Optional factory installed heat recovery system that can provide virtually free domestic hot water.
- 5) Stainless steel condensate drain pan.
- 6) High efficiency heat pump compressor for maximum performance.
- 7) Air coils are oversized, rifled copper tube/lanced aluminum fin for high efficiency and are epoxy coated for enhanced corrosion protection.
- 8) Insulated water heat exchanger prevents condensation at low temperature operation.
- 9) Optional four sided filter rack for tight seal and easy filter access.
- 10) Serviceability - FHP designs and builds every unit with service in mind.



## GS Series Unique Feature

**ECM (Electronically Commutated Motor) Fan Motor** - The field proven-efficiency and reliability of the GE ECM technology now makes it possible to bring increased energy savings and precision speed control to your GS heat pump.

**Ultra-High Efficiency** - The ECM motor is 20% to 30% more efficient than a standard motor.

**Constant Airflow** - Constant airflow is critical to providing the greatest level of performance and comfort. Because of the unique design of the ECM motor, the desired airflow can be maintained under a wide range of operating conditions.

**Ultra-Quiet Operation** - The soft start feature allows the motor to ramp up to speed eliminating the abrupt change in sound when the unit cycles on or off.



## Geothermal Advantages

### Safe, Clean Operation

No flues, no flame, no dangerous carbon monoxide and a factory-sealed refrigerant circuit make Geothermal technology an attractive alternative for safe, clean and environmentally friendly comfort for your home.

### Energy Efficiency

Geothermal units operate more efficiently than ordinary heating and cooling systems, saving you up to 60% in most cases, and providing virtually free hot water.

### Durable Design

Geothermal heat pumps last longer because they are housed indoors and protected from harsh weather conditions. No defrost cycles are needed, which means less stress on critical components and no loss of operating efficiency.

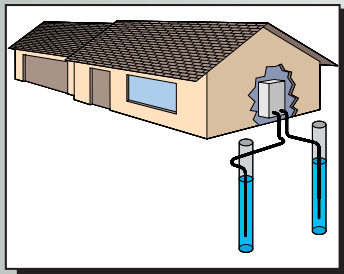
### Better Comfort

Constant, even temperature and humidity control. Gone are the uneven temperatures experienced with ordinary furnaces and poor dehumidification you get from standard central air units.

# Enjoy all these benefits by simply tapping into the energy already present in your backyard

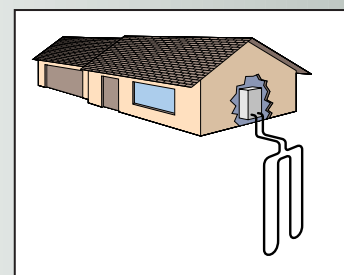
## GROUND WATER SYSTEM

Ground Water Systems (Open Loop) have been utilizing the earth's natural heat source/heat sink ability for over 40 years. Ground Water Systems draw water from an aquifer via a supply well, pass through the Geothermal heat pump's heat exchanger where heat is exchanged with the refrigerant inside your FHP unit, then returned to the aquifer via a return well or simply disposed of per local code. Ground water temperatures remain very constant (usually within a degree) throughout the year despite wide variations in outside air temperature, therefore your FHP Unit will maintain its super high efficiency no matter how hot or cold it is outside. Ground Water Systems are ideally suited for homes that have existing water wells available or a good potential source for well water. When ground water is available this system usually has the lowest installed cost.



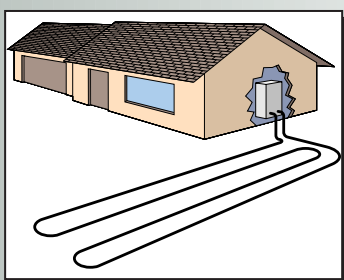
## VERTICAL SYSTEMS

Vertical Systems (Closed Loop) utilize the natural thermal properties of the earth in a similar manner to the Ground Water Systems. However, instead of pumping water out of a well then back into the ground, you simply circulate water or an antifreeze solution through a closed loop network of plastic pipe that is inserted into vertical bore holes. These vertical bore holes are typically drilled to a depth of 100 to 300 feet per ton of air conditioning or heating. The Vertical System is ideally suited for applications when available land area is limited. Similar to the Ground Water System, the **FHP Manufacturing** Vertical System avoids wide temperature swings of the outside air to deliver constant high efficiency and comfort no matter where you live.



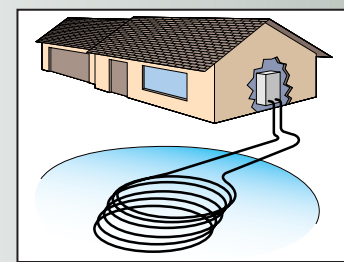
## HORIZONTAL SYSTEMS

Horizontal Systems (Closed Loop) also utilize the Earth's plentiful and renewable thermal characteristics. Like the Vertical Systems, Horizontal Systems circulate water or an antifreeze solution through a closed loop network of sealed and pressurized plastic pipe that is buried in the ground. Instead of inserting the plastic pipe into vertical wells the pipe is laid in horizontal trenches at a typical depth of 4 to 6 feet and at a length of 75 to 400 feet per ton of air conditioning or heating. Recent innovations in horizontal pipe configurations have made this system particularly attractive in first cost as well as operating efficiency. Typically a little more land area is required to install a Horizontal System. The same energy saving characteristics are enjoyed with the **FHP Manufacturing** Horizontal System as with the Vertical Systems.



## POND / LAKE SYSTEMS

Pond or Lake Systems (Closed Loop) may be the most economical closed loop system to install and has many advantages for producing energy savings. This system utilizes a nearby body of water such as a lake or a pond. As with the Vertical and Horizontal Systems it is a closed loop of sealed and pressurized plastic pipe and water or an antifreeze fluid solution. Instead of inserting the pipe into a vertical well or laying the pipe in a horizontal trench the pipe is submerged into a body of water (pond or lake) where it can utilize the consistent temperature and outstanding heat transfer characteristics of the water. No wells and very little trenching are required cutting installation costs. Once again the **FHP Manufacturing** Pond or Lake System is not subject to the cruel outside air temperatures that all air-to-air heat pumps are subject to year after year.



Visit us online at [www.fhp-mfg.com](http://www.fhp-mfg.com)

Note: Pictures courtesy of Geothermal/Heat Pump Consortium

ISO 9001:2000  
Certified



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