



RESIDENTIAL | WATER2WATER | WT SERIES

Reinventing Energy Efficiency



WARMNESS



Geothermal

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“Environmental stewardship is a core philosophy for FHP Manufacturing from design to production to the reduction in our customers’ energy bills. At FHP, we are working on a better future every day.”

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FHP Manufacturing. Top quality products to improve your savings and help create a better world.

Specializing in efficient green technology for residential heating and cooling products, FHP is one of the leading manufacturers of Geothermal and Water Source heat pumps, which assures that you are buying a unit that you can trust. We are part of Bosch Thermotechnology Ltd., a Robert Bosch Group unit dedicated to provide highly efficient heating and cooling solutions to the private and public sectors.

FHP has always been on the forefront of product development and innovative design to optimize the performance of our units. Our products are designed and manufactured to the highest quality, reflecting the no-compromise standards for which FHP and Bosch are renowned in order to provide our customers with the highest level of satisfaction and comfort. The variety of options, energy efficiency and uncompromising quality of all FHP units makes them the ideal choice for either new homes or retrofit residential buildings.

FHP's engineering efforts have been focused on providing a greener world for future generations. Faced with today's tough environmental challenges and with global warming, we are more committed than ever to develop solutions which utilize sustainable energy sources in order to conserve our planet's non-renewable reserves of fossil fuels. With our heat pumps, you not only will save money on energy bills but also help create a better world.

What Is A Geothermal Heat Pump?

Geothermal heat pump technology collects the natural energy of the earth to provide heating in the winter and cooling in the summer. At the depth of 6 feet the earth's temperature remains relatively constant all year long, which is the perfect vehicle to keep homes at a more consistent, moderate temperature.

A geothermal energy system circulates water or another fluid into the ground through a series of non corrosive pipes, where it is warmed or cooled by the ambient temperature of the ground. The fluid is then brought back to the heat pump, which then provides heating or cooling for your home or business as needed – efficiently and without any negative impact on the environment.

Cost And Payback

Geothermal heat pumps not only provide dependable, natural heat, they also provide you with more financial independence through the money the heat pumps can save.

- Geothermal heat pumps have the lowest life cycle cost today – 25% to 50% less than a conventional system
- Savings up to 70% in your energy bill depend on location and which GSHPs you use
- Will normally cost more than a conventional system, but will pay back that cost difference in a short period of time
- Local and Federal tax credits and rebates decrease your installation cost, which decreases the payback period
- Extra money to invest on quality family time
- Considered the technology of choice by the Department of Energy and the Environmental Protection Agency



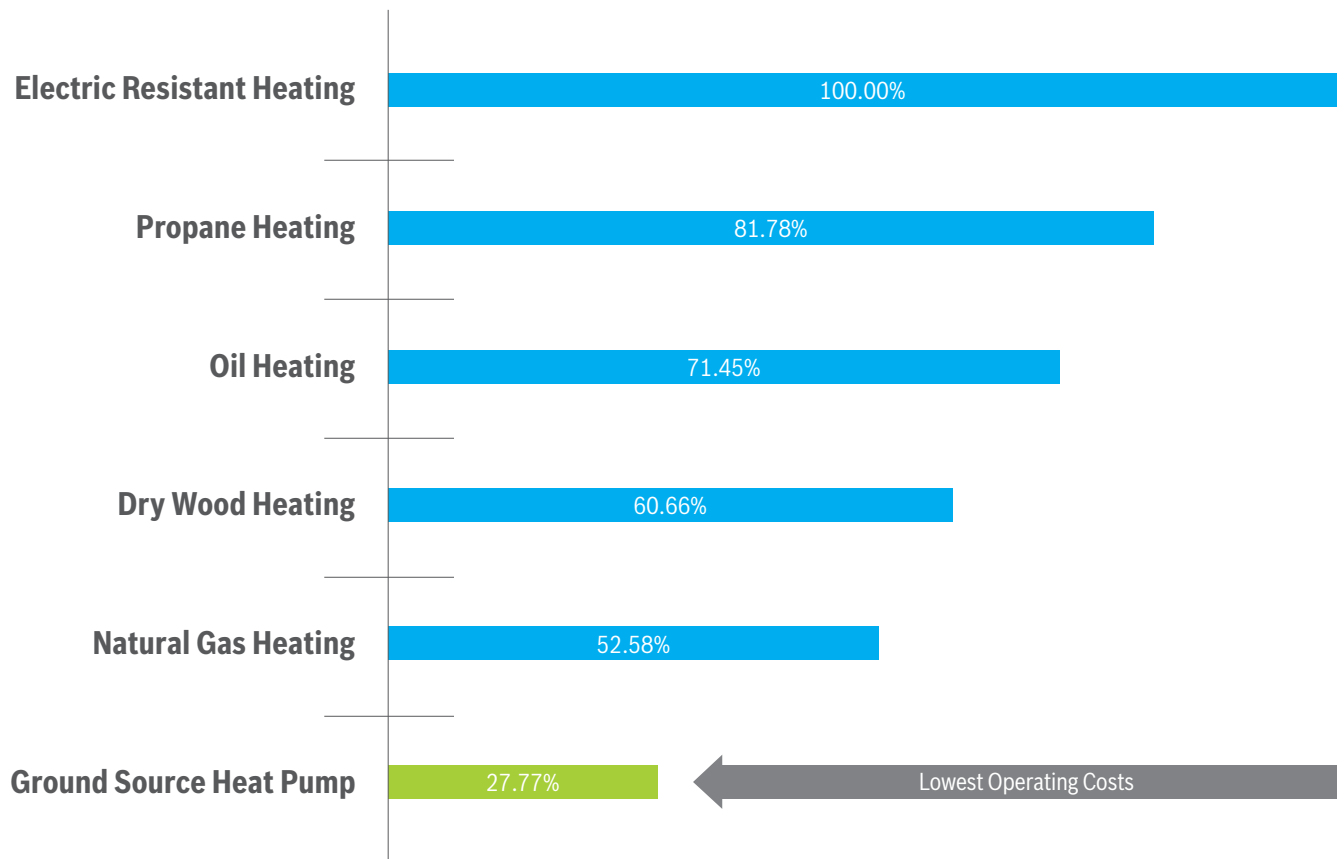
Heating Operating Cost Estimate

Estimated heating costs of operation for a building with 54,000 Btu/hr Design Heat Loss at -3 F.

Estimates based on the following energy costs:

Electricity - 9.5 cents per kilowatt hour; Natural Gas - \$1.20 per therm; Propane - \$1.75 per gallon; Oil - \$2.25 per gallon; Dry Wood - \$230 per full cord.

Source: Phoenix Energy Supply; FHP Manufacturing



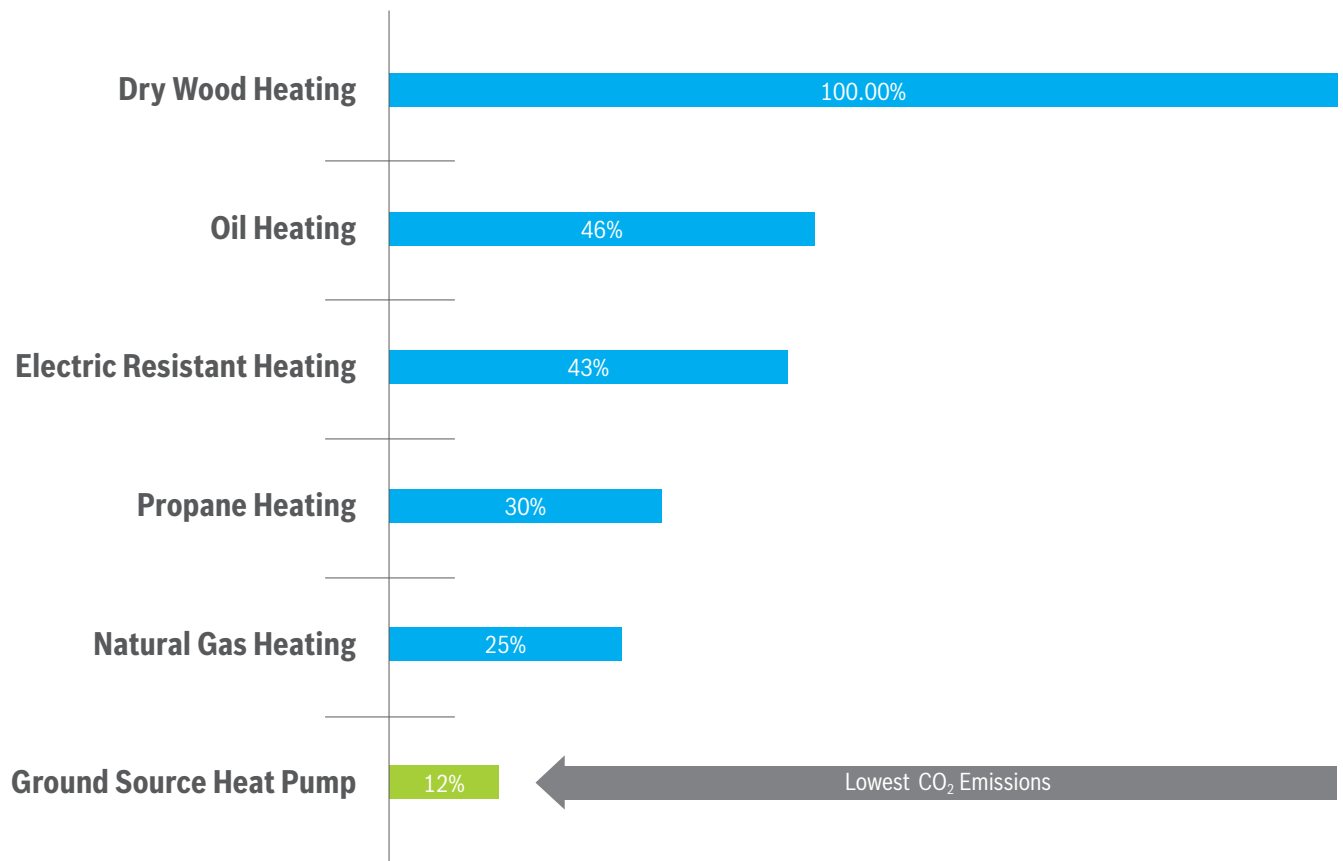
CO₂ Emissions Estimate

Estimated CO₂ emissions for a building with 54,000 Btu/hr Design Heat Loss at -3 F.

Estimates based on the following CO₂ emission rates:

Electricity - 0.76 CO₂/KWH; Natural Gas - 110 lb CO₂/MBTU; Propane - 126.7 lb CO₂/MBTU; Oil - 188.6 lb CO₂/MBTU; Dry Wood - 323.8 lb CO₂/MBTU.

Source: Phoenix Energy Supply; FHP Manufacturing



WT Series - Warmness

While FHP's WT Series boasts industry leading efficiency at full load heating and cooling, it is even more efficient at partial load. Unless peak capacity is required, the WT Series can run at roughly 2/3 capacity at significantly higher efficiencies than competitive products, maintaining maximum comfort with minimum energy use. This increases your energy savings even further, saving you money and providing you peace of mind.

Quiet Operation

The WT Series employs a number of features to ensure that it will provide comfort quietly. The entire refrigerant system is supported by a heavy gauge base that floats on a unique high density, visco-elastic sound barrier. The compressor is covered in a multi-density sound blanket and the heavy gauge steel cabinet is fully insulated. When employed as the heat source for radiant floor systems, this unit is the most efficient and has the quietest means available to heat and cool a building.

Environmentally Friendly

FHP is committed to manufacturing environmentally friendly technologies. The WT Series is just the latest example of our passion to make a greener, cleaner and better world. Our newest heat pump not only reduces greenhouse gasses through efficient operation, it also employs the ozone-friendly refrigerant R-410a. Furthermore, FHP does not use any paints, glues or solvents that can harm the environment in the construction of this product.

We have taken these steps because environmental stewardship is a core philosophy for us, whether in design or production or in our desire to immensely reduce our customers' energy use and environmental impact. At FHP, we are working on a better future every day.

Quality

The Aquarius II is among the most efficient systems on the market, featuring less energy use, extended product lifespan and removing almost all noise during operation. This means that you will hardly even notice that your system is running. The high quality of the product also assures low maintenance costs.





The WT series provides almost limitless options for hydronic systems due to its two-stage compressor and high operating temperatures.



Water-To-Water Applications To Meet Every Need

Beyond using geothermal energy to help heat and cool your home or business, there are a number of innovative applications available. The WT Series provides almost limitless options for hydronic systems due to its two-stage compressor and high operating temperatures.

The WT Series employs heat exchangers specifically designed for water heating applications, meaning increased efficiency and even greater cost savings for hydronic applications. The heat exchanger is designed to adapt to the innovative two-stage compressor, so efficiency is maintained at all operating levels.

The Aquarius II WT Series water-to-water heat pump is specifically designed with these hydronic applications in mind. Whether heating your home or business or meeting your hot water needs, the FHP system will perform efficiently and reliably for years to come.

Radiant Floor Heating

WT units from FHP can meet all your radiant floor heating needs as well with tubing encased in the floor, circulating warm water throughout every room. This heated water ensures that each room is comfortably conditioned because the entire surface of your floor becomes a radiator as well, creating ambient heat that will keep you warm on even the coldest of days. This application can be used with almost any type of flooring: wood, tile, brick and even concrete can have heated coils placed beneath it.

Domestic Hot Water

Hot water needs account for a large percentage of the energy a home or building consumes every year, and WT customers know that our efficient technology can help support their hot water needs as well through the optional heat recovery package. With the ultra efficient WT Series, you can have part of the system dedicated to your air conditioning and heating and another portion to supplement your current hot water heating system to meet the needs of your entire family.

Pool And Spa Heating

Recreational pools and spas have very high water heating demands, which can be met simply and efficiently with the energy produced by your WT Series heat pump. This will allow you to offset the natural gas and other traditional fossil fuel sources used for these applications, and save you hundreds of dollars every season. Please contact FHP Manufacturing Company for more information.

Radiators

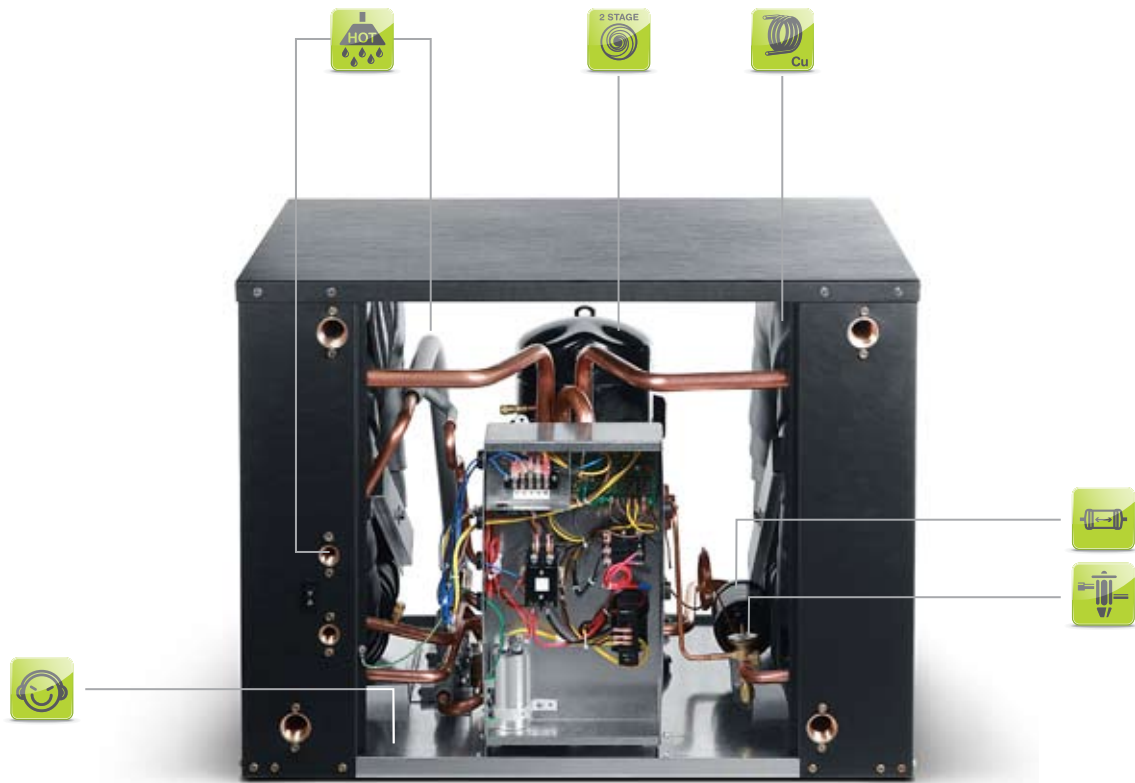
The WT Series system, when coupled with additional equipment, can also be used to supplement the costly conventional electric or fossil fuel boilers used in radiator and fan coil heating systems. The high temperatures produced by the WT system offer immense cost savings and efficiencies over these traditional heating methods.

Industry Leading Technology

The WT Series is available in capacities from 2 to 6 nominal tons and employs a two-stage scroll compressor to precisely match the load profile of the space. The high end appliance grade cabinet is designed to fit easily through standard doorways, simplifying installation in existing homes. FHP's exclusive whisper quiet floating base pan and multi density compressor blanket ensure that heating and cooling needs will be met quietly as well as efficiently.

FHP's state of the art control circuit includes the Comfort Alert Diagnostic Module that is matched to the unit compressor. This feature, standard on the WT Series, can significantly reduce maintenance costs by improving system technician accuracy by up to 75% over systems without a Comfort Alert Diagnostic Module.





Key Features

Standard



Geothermal



Scroll Compressor 2 Stage



R410-A Refrigerant



Coaxial Heat Exchanger Copper



Floating Base



TXV Valve



Unit Protection Module 1



Comfort Alert Diagnostics Module



Filter Drier

Optional



Coaxial Heat Exchanger Cupronickel



Solid State Water to Water Unit Control



Desuperheater



Floating Base

The floating base pan isolates the compressor from the cabinet and absorbs the vibration energy so that it does not get transmitted to the space. Even under normal operating conditions vibration may be transmitted to the building and introduced into the space as noise. This feature, unique to FHP is standard in all of our units to ensure quiet operation.



Comfort Alert Diagnostics Module

The Alert Diagnostics module is installed in the electrical box of our units. It is an available option on almost all FHP units. The tool monitors data from the thermostat and compressor and records any malfunction of the system. LED lights provide the alert code and lead the service technician to the cause of the malfunction. The Alert Diagnostics module can significantly reduce maintenance by improving system technician by up to 75% over systems without this feature.



Desuperheater

A desuperheater or HRP (Hot Water Heat Recovery Package) is a feature that takes advantage of waste heat of the compressor and uses it to heat domestic water. Heating your water with FREE waste heat will reduce the use of your inefficient water storage tank heating elements. Hot water is produced by using a double wall coaxial heat exchanger coil. The hot refrigerant gas flows in the outer tubing while the domestic water flows in the inner pipe being heated by the hot refrigerant. The HRP heats water with superheated gas that is being produced by the compressor as you heat or cool your space, thus saving you money in your hot water production.



Warranty Information

FHP's limited warranty includes the following components:

- Compressor: 10 years
- Refrigerant Circuit: 10 years
- All other parts: 5 years

FHP's limited warranty is available for the following product types:

- Sizes from 2 tons to 6 tons with 208/230 single phase voltage

WT SERIES

Performance Data



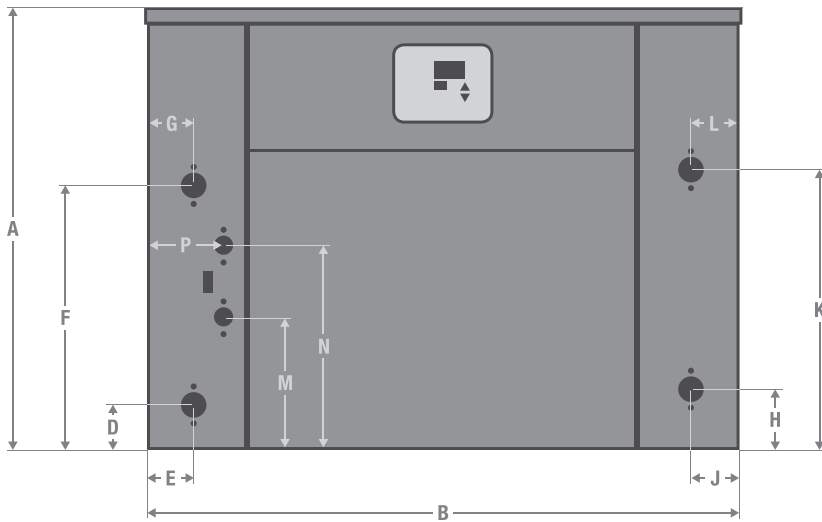
AQUARIUS II WT SERIES	ALL UNITS RATED IN ACCORDANCE WITH AHRI/ISO/ASHRAE/ANSI 13256-2												
	LOAD TEMPERATURE												
	Water Loop (WLHP)			Ground Water (GWHP)				Ground Loop (GLHP)					
	53.6°F		104°F	53.6°F		104°F		53.6°F		104°F			
	SOURCE TEMPERATURE												
	86°F		68°F		59°F		50°F		77°F		32°F		
	CAPACITY AND EFFICIENCY DATA												
	COOLING CAPACITY	EER	HEATING CAPACITY	COP	COOLING CAPACITY	EER	HEATING CAPACITY	COP	COOLING CAPACITY	EER	HEATING CAPACITY	COP	
	WT025												
	Part Load	15,500	14.7	22,000	4.6	18,500	25.7	17,000	3.7	18,000	22.1	15,500	3.1
Full Load	21,000	13.4	31,000	4.4	24,500	21.2	25,000	3.6	22,500	15.9	19,500	2.8	
WT035													
Part Load	22,500	14.5	31,000	4.7	25,500	24.5	25,000	3.6	24,000	20.6	22,000	3.1	
Full Load	29,000	12.6	43,000	4.3	34,000	20.2	34,000	3.5	30,000	14.5	27,000	2.8	
WT049													
Part Load	29,000	13.8	42,000	4.5	33,500	23.5	34,500	3.8	32,500	20.1	30,500	3.2	
Full Load	39,000	12.8	58,000	4.1	45,000	19.7	47,000	3.6	41,000	14.9	37,500	2.9	
WT061													
Part Load	37,000	14.2	55,000	4.7	42,500	23.3	41,500	3.6	41,000	19.8	36,500	3.0	
Full Load	49,000	12.9	74,500	4.2	56,000	19.9	59,000	3.4	51,000	14.8	44,500	2.7	
WT071													
Part Load	43,500	13.5	65,500	4.4	50,500	21.8	52,000	3.5	48,500	18.7	45,000	3.1	
Full Load	57,500	12.4	86,500	4.1	64,000	18.8	70,000	3.4	60,000	14.8	53,000	2.9	

WT 025 - 071 SERIES | DIMENSIONS

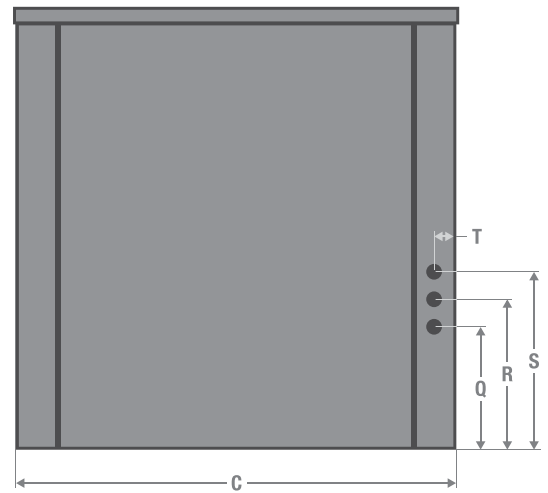
MODEL	D	E	F	G	H	J	K	L	M	N	P	Q	R	S	T	WATER CONN.	HRP CONN.
WT025	2.70	2.50	13.70	2.50	3.25	1.95	14.25	1.95	7.15	11.00	4.25	6.55	8.05	9.55	1.25	0.75 FPT	0.50 FPT
WT035	2.30	2.30	14.30	2.35	3.70	2.55	15.70	2.55	7.15	11.00	4.25	6.55	8.05	9.55	1.25	0.75 FPT	0.50 FPT
WT049	2.30	2.60	14.30	2.65	3.70	2.65	15.70	2.65	7.15	11.00	4.25	6.55	8.05	9.55	1.25	1.00 FPT	0.50 FPT
WT061	2.30	2.60	14.30	2.65	3.20	2.65	15.20	2.65	7.15	11.00	4.25	6.55	8.05	9.55	1.25	1.00 FPT	0.50 FPT
WT071	2.50	2.60	21.75	4.45	2.50	4.45	21.75	2.60	7.15	11.00	4.25	6.55	8.05	9.55	1.25	1.00 FPT	0.50 FPT

NOTE: Overall cabinet dimensions A x B x C are the same for all sizes: 24.00 x 32.50 x 24.00 in

UNIT FRONT



LEFT SIDE



NOTES: All dimensions within +/- 0.125" Specifications subject to change without notice

How To Start Using Geothermal Energy In Your Home Or Business

You can tap into renewable energy for your home or business with our innovative geothermal heat pump systems by speaking directly with your local FHP-Bosch Group representative.

He can help you determine which system is the best fit for both your home or business and your financial needs. With new incentives available from federal, state and local governments, there has never been a better time to start saving money and doing your part to contribute to a greener, cleaner and better world.



WWW.FHP-MFG.COM



601 N.W. 65th Court, Ft. Lauderdale, FL 33309
Phone: 954-776-5471 | Fax: 954-776-5529
www.boschtaxcredit.com | www.fhp-mfg.com

