Whitehouse, OH

Residential Case Study

CLIMATEMASTER®
Geothermal Heat Pump Systems

The Geothermal Difference

Mark Frost of Whitehouse, Ohio, a small community southwest of Toledo, is undoubtedly one of the more enthusiastic customers currently reaping the benefits of a ClimateMaster geothermal heating-and-cooling system. And that's actually not surprising, since Frost is a territory manager with Heating & Cooling Wholesalers Inc. of Toledo, the ClimateMaster residential distributor for northwestern Ohio.

A couple of years ago, when Frost and his wife were having a new home built for themselves and their three children, they quickly settled on the type of heating-and-cooling system they wanted installed.

A Toledo Testimonial

"It was going to cost a lot of money to run natural gas to our property," Frost said, "And based on my experience, I know geothermal is the best choice – and certainly the smartest way to heat and cool your home. So we decided to apply our initial investment to install one of the first Genesis heat-exchange systems that came off ClimateMaster's assembly line."

Frost is a true believer in the theory upon which geothermal technology is developed. That's one of the big reasons he sells these systems for a living.

"This heat-exchange process is not only natural," Frost said, "It's a truly ingenious and highly efficient way to create a comfortable interior-home climate. The efficiencies are enormous. In fact, because of the substantial annual operating-cost savings with a ClimateMaster heat-exchange system, it can literally pay for itself within 3 to 5 years."

The living room of the Frost home

The Frost home – which has a 5-ton ClimateMaster Genesis system – measures about 3,400 square feet, plus a partial basement (which is included in the heating-and-cooling system) of about 1,250 square feet. That adds up to a total of 4,650 square feet of conditioned home.

The basement also contains the home's two water heaters – one serving as an active water heater, the other storing hot water heated by the geothermal system.

Cost Comparison

A quick analysis of Frost's home-energy bills from August 2005 through July 2006 shows that heating, cooling and water-heater operation over that 1-year period cost the Frost family $1,421.

Compare that to a simulated annual cost – factoring in the same square footage in the Toledo area using the industry-standard GeoDesigner software – with the most common 80-percent furnace/13-SEER air conditioner operating on natural gas at about $3,670, or the same-efficiency system running on propane at over $3,900.

Even a best-case GeoDesigner analysis of the most efficient air-source heat pump in the same square footage comes out at over $2,315 – an annual advantage for the ClimateMaster system of nearly $900, or 39 percent.

A further important facet of ClimateMaster heating-and-cooling systems is zoning within any given building – zoning that essentially separates various areas, or zones, of the home so the temperature can be controlled individually within each zone.

"We have four zones in our home," Frost said. "So, of course, there's a separate thermostat for each of those four zones. Especially in the 'bonus' room – which is invariably warmer in the summers and cooler in the winters – it's a great feature to be able to control the temperature by simply adjusting that zone's thermostat."

Key Features

The Frost Home
Whitehouse, OH

Square Footage: 4,650 sq. ft.
Type of System: Five-ton Geothermal Ground-Loop System
Cost Savings: $2,249 per year, compared to 80% natural gas furnace/13-SEER air conditioner

And there are other tangible aspects that make ClimateMaster systems attractive to homeowners.

"Geothermal is a very comfortable kind of heating and cooling," Frost said, "With a ClimateMaster system you can feel at least as comfortable at, say, 74 or 75 degrees.

"That can greatly lower your operating costs, because every 'saved' degree of cooling or heating also saves a tremendous amount of money."

Mark Frost checks the valves on his ClimateMaster unit

Obviously, however, of the many advantages of ClimateMaster residential geothermal systems, the most striking and important are those to be found at the bottom line of the homeowner's monthly energy bill.

"The key is to look at the total kilowatts used – then divide that by the amount of the bill. That gives a true overall electric rate, which you can then compare against others you figure using the same method."

As the highly accurate and unbiased GeoDesigner analysis we've cited earlier suggests: With a ClimateMaster residential geothermal system working for you, odds are good the figures will come out strongly in your favor month after month.

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Distributor: Heating & Cooling Wholesalers, Inc.

ClimateMaster is the world's leader in the design and manufacture of water source heat pumps. For more than fifty years, ClimateMaster has been servicing the needs of the commercial and residential construction industry worldwide with the most comprehensive line of water source heat pumps.

ClimateMaster's state of the art facility in Oklahoma City, Oklahoma reflects the company's commitment to it's customers, employees, and products. The company stresses quality in its modern quarter-of-a-million square foot (23,225 square meter) factory through extensive quality control programs.

At ClimateMaster we've made a commitment to excellence. We are building quality heat pumps for life... the life of buildings and the people who use them.

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