Tropical Breeze Home Life

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Buried Pipe Offers A Better Way To "Cool It"

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Jay Egg is a bright young man on his way up the entrepreneurial ladder who has a tiger by the tail in the form of an 1,800-foot-lond polyethylene pipe he wants to bury in your back yard. His company, Egg Systems Inc., is an embryonic firm located in Oldsmar. He feels that his company is on the cutting edge of an industry whose time has come. That is, the conversion of the natural cooling and heating reservoir of Mother Earth into an affordable, environmentally friendly system to cool and heat your home.

First, let's go back to the good old days. When folks lived in case, they were protected from heat and cold by the mass of earth that surrounded them. Civilization forgot about the natural resource for thousands of years. When folks got cold they donned their long johns, built a fire or generated some body heat. When they got hot, they shed layers of clothes and jumped into the water. Then, in the 1940s, and engineer again observed that just below the surface the earth's temperature remains relatively constant throughout the seasons. It absorbs about half the sun's energy that strikes it. The thin air around us is far less thermally absorbent. Thus, the earth could provide a higher temperature source in the winter and a cooler source in the summer months. The trick was to tap into this natural ground source of energy.

An electrically powered system was devised to tap into the earth's energy. It worked. It was called a heat pump, and the rest is history. Basically, this is how such a system works. It has three components: a ground heat pump unit, the liquid heat exchanger medium (a closed loop pipe system), and the air delivery system (ductwork). The closed-loop is a continuous loop of polyethylene pipe or tubing buried in the ground. It's filled with water or and anti-freeze solution and connected to an indoor heat pump, forming an underground loop.

Laid in trenches up to six feet deep, the tubing may be doubled up or laid like a slinky with no loss of efficiency. If properly installed, the polyethylene tubing will last over fifty years. About 500-600 feet of tubing will produce one ton of heat pump capacity. A well-insulated 2,000 square foot home would require 1,500 to 1,800 feet of tubing. The cool/warm air is distributed through the home via ductwork. As the ground source heat pump is located indoors, it's life span is greatly increased.

In general, the geothermal system costs about twice as much as a conventional heating/air conditioning system. It may reduce heating costs by 60%, reduce air conditioning costs by 25% in the summer, and provide hot water for normal household use.

Ground source heat pumps have less moving parts and creates less noise than outdoor units. Jay Egg grew up in Barstow, CA prior to joining the Navy and becoming a nuclear power qualified electrician. He was an instructor at the nuclear power school at the Orlando Naval Training Facility before leaving the service in 1987. He worked for several local companies in the heating and air conditioning career field, received his FloridaStateCertification, and got involved with thermal energy storage.

Seeing a strong need for commercial and residential geothermal energy use, he incorporated in 1991. Although his facility of 2,400 square feet in Oldsmar provides storage and sheet metal works for ducting, he already has the need to double his working area. He and his partner expect to triple their number of installations this year over the last twelve months and expect the business to grow considerably in the future. Egg said, “I love the geothermal technology. It’s the Cadillac of all air conditioning systems. I am proud of our company’s involvement.” He went on to state, “I would never recommend to reconvert a working system until it breaks. Then consider a retrofit job.” Because of the costs involved, geothermal systems are more ideally suited during the new construction process. He anticipates working with developers in the future, looking forward to installing a geothermal system for an entire subdivision. The underground tubing would be “snubbed out” for each building lot, at considerable savings over piecemeal, individual installation for those homeowners who want it. Egg said his geothermal system will be on display at the Architectural Design Center in Largo during the Image ’93 Program September 17-19. He is available for questions. Call Egg Systems Inc., (813) 855-7545.