

# Improve Your Geothermal System Efficiencies!

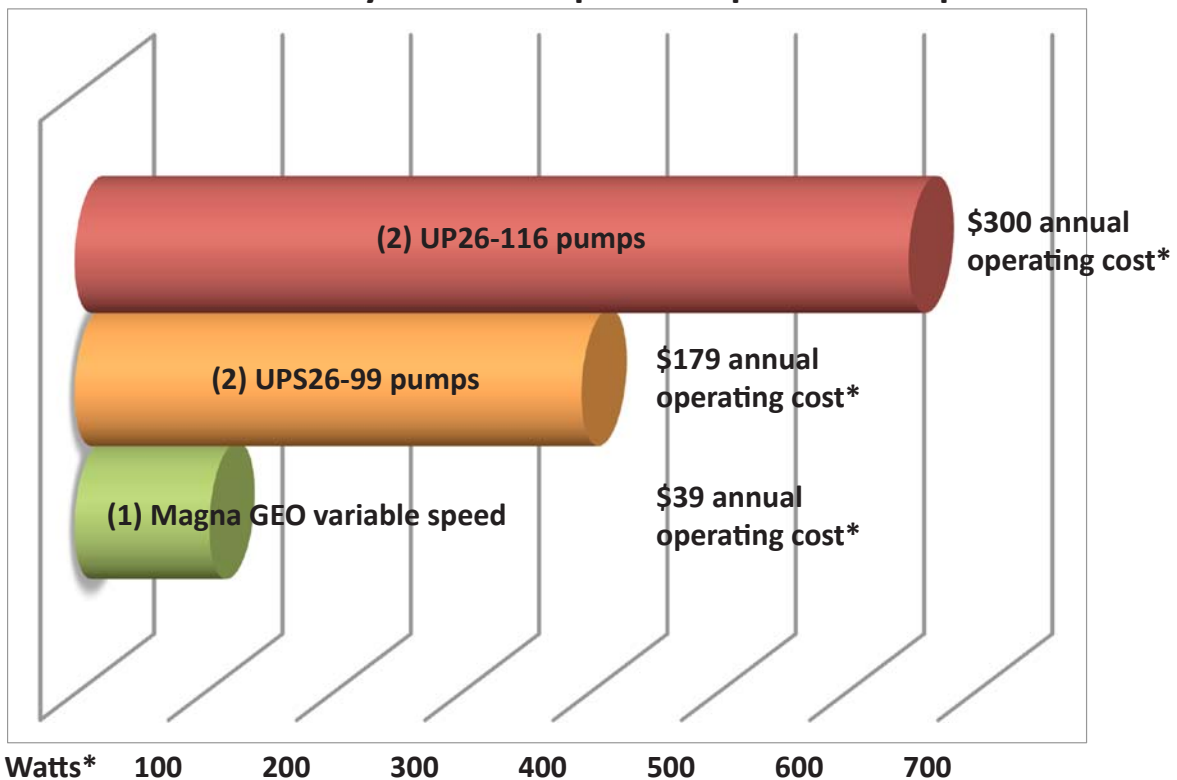


The combination of a Grundfos Magna GEO variable speed pump with a Geo-Flo flow center and a two-stage geothermal heat pump can improve system efficiency by up to 20%! Geothermal heat pumps are becoming even more efficient, but we're still using the same pumps that we were in the 1980s. The example chart below shows how significant the impact can be, especially when running in part load operation (typically 80% of the run hours). Like the efficiencies gained by adding an ECM fan motor to the heat pump, the Grundfos Magna GEO adds an ECM pump to the water circuit for increased system efficiency.



Available in pressurized and non-pressurized flow centers, and in one or two pump models, this highly efficient flow center provides your customers a variable speed option with long term savings. Payback vs. traditional flow center pumps is almost always one to three years. Plus, with Geo-Flo's Grundfos UPC-GEO controller, technicians gain a significant amount of data, providing quick startup and troubleshooting. When equipped with a flow sensor, the controller displays Entering Water Temperature (EWT), Leaving Water Temperature (LWT), flow rate in U.S. GPM, temperature difference, Heat of Extraction/Rejection, pump Watts, heat pump stage, and fault codes. Operation modes include flow rate (directly set GPM on the controller) and temperature difference ( $\Delta T$ ) mode with separate heating and cooling settings.

## 4 ton Geothermal System Example: Pump Watt Comparisons



\*Average pump Watts for a 4 ton two-stage geothermal closed loop system. Based upon 4,145 annual run hours per year and \$0.12/kWh.



**Flo-Link Pressurized Flow Center**

## Variable Speed Flow Centers

**Pressurized & Non-Pressurized Models**



**NP SERIES**  
Non-pressurized Flow Center

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