

# How the Helios Automatic Condenser Tube Cleaning System solved chiller fouling



## THE CLIENT

Founded in 1926, Grandview Medical Center is a 600,000+ square foot complex located near downtown Dayton. Part of the Kettering Health Network, the medical center takes pride in being one of the nation's largest osteopathic teaching hospitals.



## THEIR PROBLEM

Fouling caused by mineral-affected groundwater was occurring inside the heat exchangers of Grandview's chillers, not long after the facility began transforming their chiller plant to a more energy efficient geothermal model. To create the same amount of cooling as traditional models, fouled heat exchangers caused the chillers to use significantly more energy. Grandview needed a solution to prevent the heat exchangers from fouling, allow the chiller plant to operate at its designed efficiency, and still utilize the geothermal model they had invested in.



## THE SOLID BLEND WAY

Grandview reached out to Solid Blend for a solution. Because of its complicated nature, research was needed. Solid Blend searched nationwide for other facilities that experienced similar difficulties when using groundwater. They located several facilities in Iowa and Virginia that were seeing positive results from using an Automatic Tube Cleaning System (ATCS). After further research indicated that an ATCS would provide the best results for Grandview, Solid Blend reached out to Innovas Solutions, an American manufacturer of the ATCS. Since this was new technology in our region, and geothermal systems were beginning to gain momentum, Solid Blend negotiated a "No-Cost" pilot test using one ATCS at Grandview's chiller plant. Heapy Engineering was contracted as a third-party validation group.



## THE RESULTS

The tube cleaning system solved Grandview's fouling problem and yielded an ROI of 2.04 years and total cost savings of nearly \$16,000, according to Innovas. Heapy Engineering's study indicated that the design efficiency was maintained during the pilot, and the ATCS maintained clean heat exchangers, saving Grandview \$11,000 annually on energy consumption. Another positive outcome was the reduction of labor since quarterly tear down of the chiller to acid and physically clean the heat exchanger tubes was no longer needed.

