Abstract

MTH Pumps is a commercial and industrial pump manufacturer based in Plano, IL. Our Senior design group was tasked with improving a leak detection system for pump housings for MTH Pumps. Their current system is inefficient and unreliable.

Some components for our project were provided by MTH while others needed to be sourced by our group. All materials were funded by MTH.

Our group's design demonstrates a proof of concept which utilizes a Decay type leak detection system. We paired this new testing method with PLC automation and pneumatic control.

Additionally, our revised system provides a quantifiable result as well as simple LED light indicators. Lastly, we verified the accuracy of the testing procedure by monitoring the results of known passing and failing parts provided by MTH pumps.

Our system, when compared to the current, will more efficiently identify leaks and limit operator interaction, therefore reducing waste in the workplace.