

Energy Harvesting Device (EHD)

Graco Inc. - Lubrication Equipment Division
(LED)



Team

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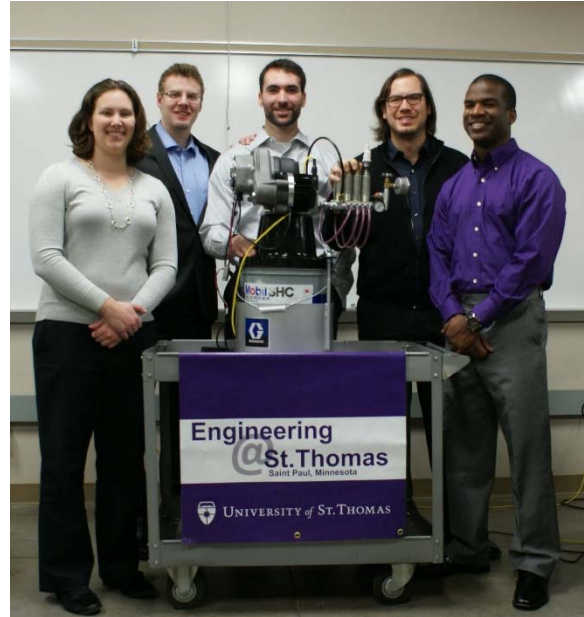
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Project Summary

The EHD project is focused on supporting Graco's Industrial Lubrication Equipment (ILE). The ILE product line includes products which control, pump, meter, and dispense lubricants necessary to keep fixed and mobile machinery operating. According to Graco, automatic grease and oil lubrication systems are increasingly replacing manual lubrication operations. The EHD project focused on designing a device that can be attached to a grease injector indicator pin that is capable of harvesting energy from its mechanical motion.



Design Goal

"Create a device that can be attached to the indicator pin capable of harvesting the mechanical indicator pin motion to signal a successful lube event and power a wireless communication circuit." (Graco Inc. 2014)

Design Constraints

- Retro-fit to existing model GL-1 injector
- Generate minimum .54mJ of energy from mechanical pin motion
- Cost of device < \$50
- Must meet Graco's environmental, vibration, and lifecycle requirements

