

GRACO Programmable Grease Valve (GPGV)



Team

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Project summary

GRACO lubrication is one of the premier in the world in fluid-handling systems and components. GRACO requested St. Thomas engineering students to design and build programmable grease valve which can provide feedback on the amount of the grease is dispensed. The seven month project entailed designing, building, and testing prototypes.

Design Goal

Designing and building a prototype programmable valve system for GRACO that dispenses a volume of $.001 \text{ in}^3$ -. 008 in^3 grease with an ability to provide feedback.

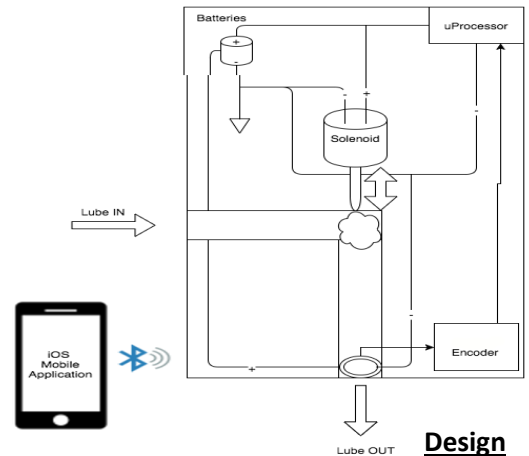


Figure 1: Valve Explanation

Constraints

1. Grease: Chevron Multifak EP 2
2. Power: No less than 2 years battery life
3. Amount of grease dispensed: $.001 \text{ in}^3$ - $.008 \text{ in}^3$.
4. The device shall provide feedback on:
 - Amount of the grease dispensed
 - How often it is the grease
5. The program shall generate an alert if the amount of grease dispensed is not what is programmed

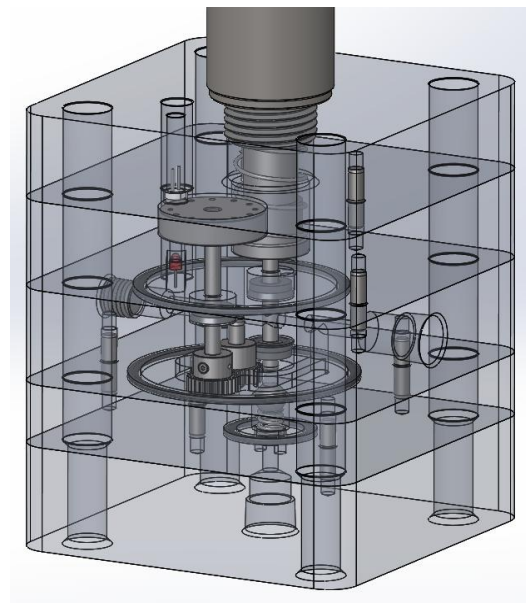


Figure 2: