

IOWA STATE UNIVERSITY

TSM 415 - Capstone

Spiral Magnetic Array Filter

Team Members:

- Jacob Miles
- Clayton Waldschmidt
- Alexander Stockmaster

Involved Clients:

- Jeff Fleenor at Fleenor Manufacturing Inc.
- Dennis O'Neel at Magnetic Array Filtration
- Dr. Brian Steward at Iowa State University

Faculty Advisors

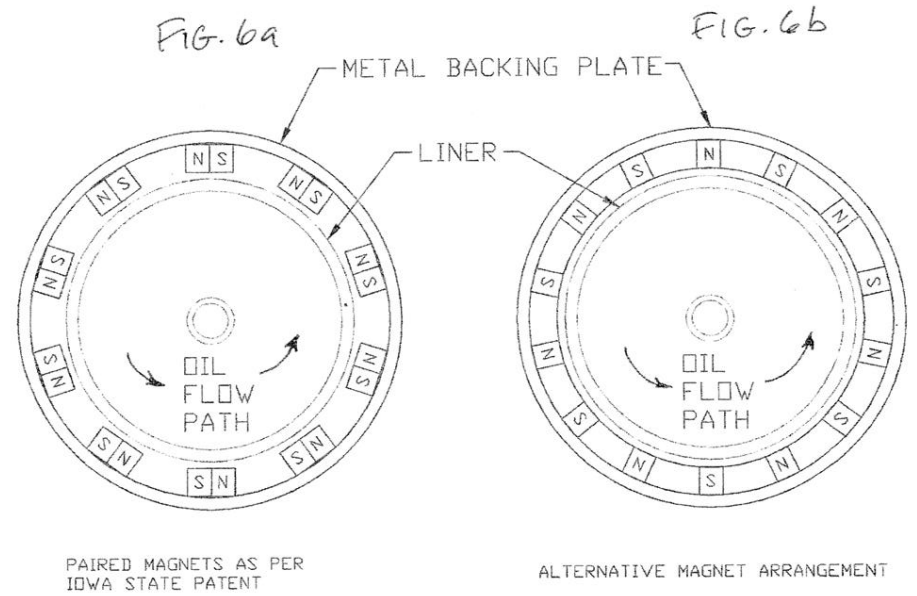
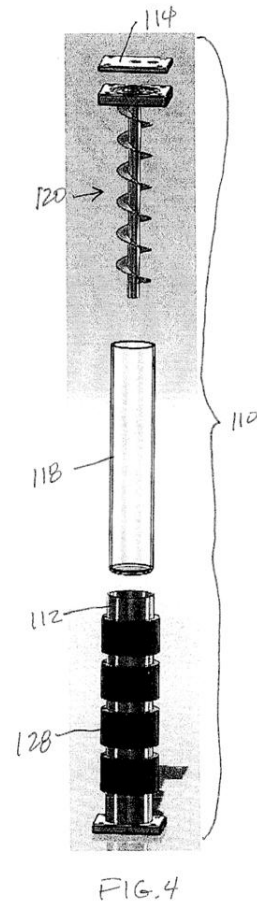
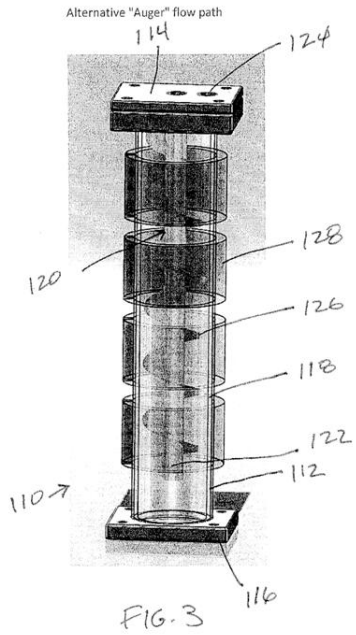
- Jacek Koziel
- Michael Anderson



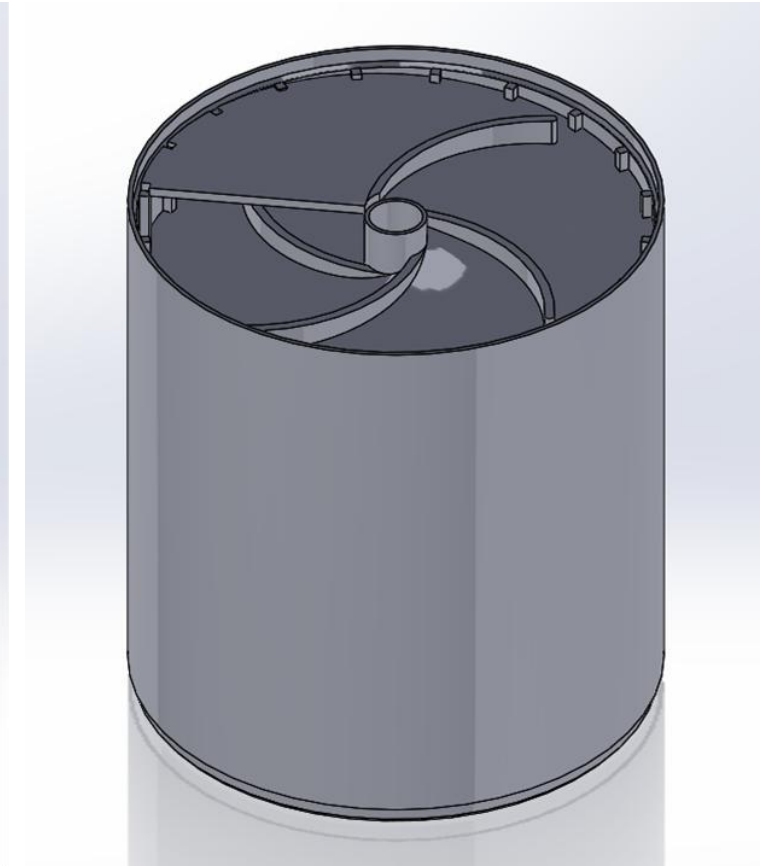
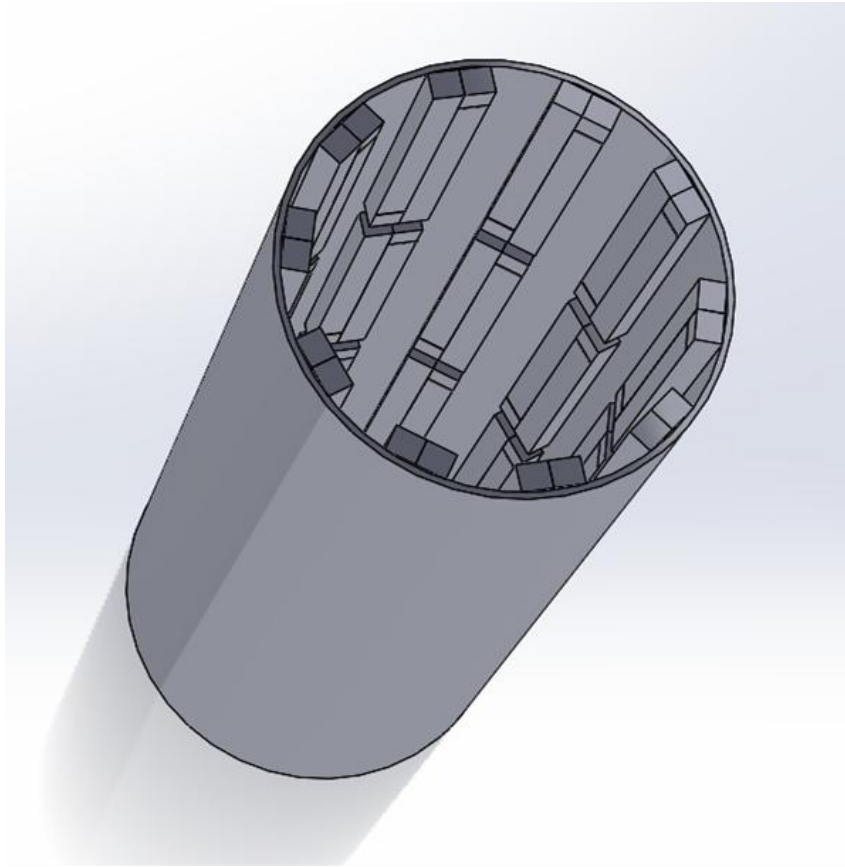
Capstone Team Role

- Design and manufacture spiral insert
 - Fits inside a magnetic array
- Test spiral design on test stand at Iowa State University
- Collect and interpret data
 - Beta ratio - assess efficiency of particle removal
 - Prepare quality figures and tables

Fleenor Patent



Our Design



Our Design



Testing Procedure Overview

- Contaminate fluid with ferrous metal powder.
- Bypass filter and take benchmark ISO particle count readings
- Open filter circuit and take continuous readings as particle count decreases.
- Export data from counters.

