BME464L Project (Fall 2013, Palmeri)

Soft Tissue Degassing Controller

Research Problem

The ultrasonic imaging of excised soft tissue requires that all endogenous and exogenous gas bubbles must be removed for good image quality. The degassing of soft tissues requires being help under negative pressure for an extended period of time.

Project Objective

Design a microcontroller-based device that interfaces with a Varian DS 202 vacuum pump to allow a user to define the desired pressure to be held as a function of time. Additionally, this device will modulate a gas flow controller that will exhaust pumped gases into a vented exhaust fume hood, in addition to allowing the chamber to slowly return back to normal atmospheric pressure. This device will also provide remote communication to a user about the status of their pressure chamber as a function of time.

Research Contact

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