

htg22

Harrison Gill's Individual Contribution Page

Spring 2012 Contributions

- Worked to produce designs for a Ram Pump testing apparatus. Designs include wasted water collection and return as well as pumped water collection, measurement, and return.
- Helped design an orifice flow meter that is easy to integrate into a 1" schedule 40 piping system and is monitored by process controller. The design process included matlab simulations of the meter to decide the optimal orifice size based on expected flow rates.
- Helped to design a check valve that has an adjustable closing point based on the velocity of water flowing past it and adjustable stroke length.
- Helped to build testing set up including 80/20 framing for pump mount, pipe supports, plumbing, and pump body.
- investigated the merits of commercial and custom made wasting valves and concluded that custom made valves are more effective at pumping water.
- tested various drive pipe lengths and configurations to probe the inner workings of ram pumps
- attempted to design and build a electronic valve sensor to determine when the wasting valve was open or closed.