

Spec / Description

- 1) Pump Housing is optically clear
 - a. Is material property a reasonable enough indicator of compliance?
 - b. Photocell / Dark Room, Light source with and without interfering front housing
- 2) Able to change housing / Impeller with minimal time
 - a. Give instructions to a student unfamiliar w/ project and time them.
- 3) Impeller Diameter (4")
- 4) Inlet and outlet pump differential pressure range (0-20 ideal)
 - a. Read pressure differential via labview
 - b. Manual gauges if requested
- 5) Differential Pressure can be measure accurately
 - a. Manometers on both sides of pump – measure height differential
- 6) Range of Volume flow through system
 - a. Measure with the flow meter and report through labview
- 7) Accuracy of Volume flow
 - a. Change outlet to dump to container. Prime pump. Begin logging volumetric flow rate. Run for 15 seconds. Stop pump. Use numerical differentiation to determine volume that should have passed and verify with weight of water in container.
- 8) Accuracy of temperature measurement
 - a. Ice water bath (0C) and boiling water (100C)
- 9) Motor speed can be measured accurately
 - a. Based of tach – labview
- 10)
- 11) Can fit through door
 - a. Drive through a door
- 12) Accuracy of pump speed control
 - a. Set speed to 500, 750, 1000, 1250, 1500, 1750
 - b. Check readings of tach in labview
- 13) Pump Speed range
 - a. Shown by 12)
- 14) Able to capture high speed images
- 15) Maintenance Manual