

# HEMODYNAMIC SIMULATOR II

## P09026

### MEs

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### EEs

Alex Baxter

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# Hemodynamic Simulator II

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## Action Items Completed

- ✱ Sourced the Actuator, Servo Controller & Motor
- ✱ Finalized the DAQ, Pressure Sensors & Flow Meters
- ✱ Completed the BOM
- ✱ Finalized the material for chamber construction
- ✱ 3-D Models for
  - Aortic Chamber
  - Compliance Chamber
- ✱ Conceptualized cubicle & cart waterproofing methods

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## 2-Quarter Schedule

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## Bill of Materials

- Complete BOM
  - Control System & Instrumentation BOM
  - Mechanical Pump BOM

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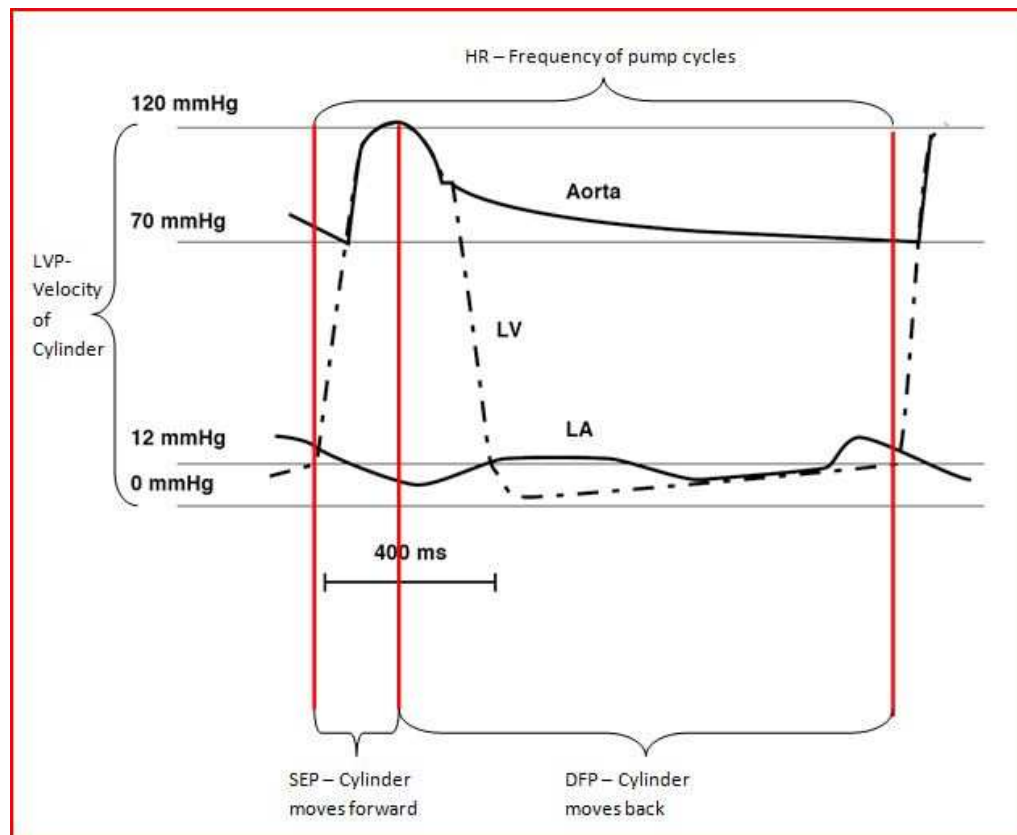
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## Drawings/Schematics

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## Control System (Week 7)



### Controllable Parameters

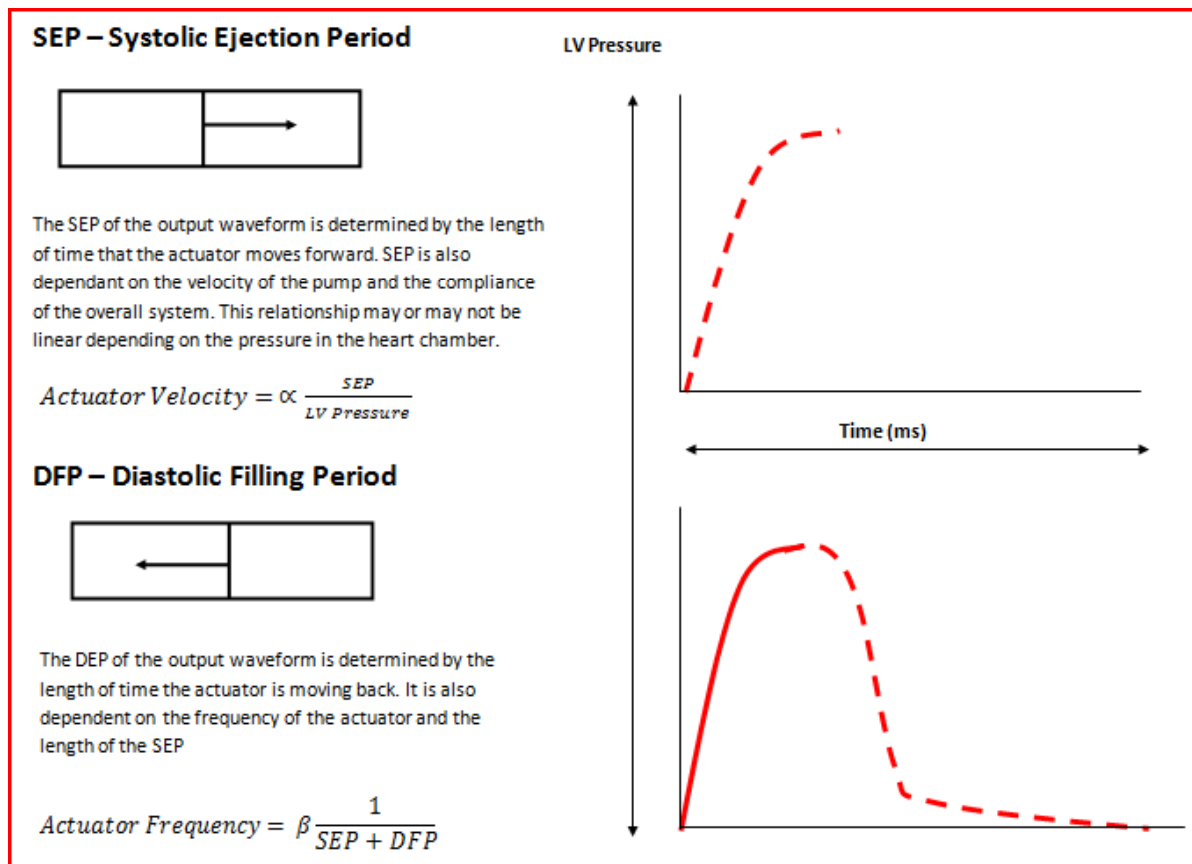
1. LV Pressure
2. Systolic Ejection Period (SEP)
3. Heart Rate (HR)

Note: The DFP is controlled indirectly by the SEP and HR that are set by the user.

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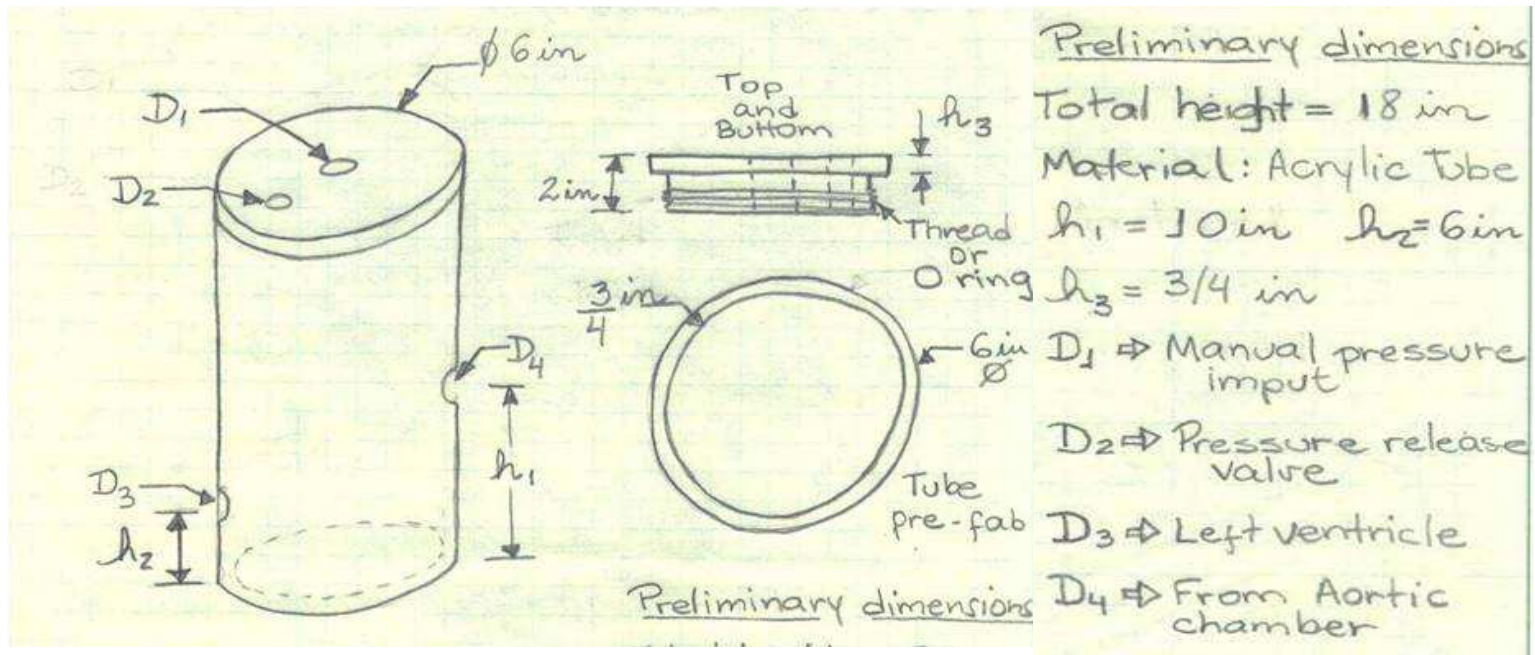
## Control System (Week 8)



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## Atrial Reservoir (Week 7)

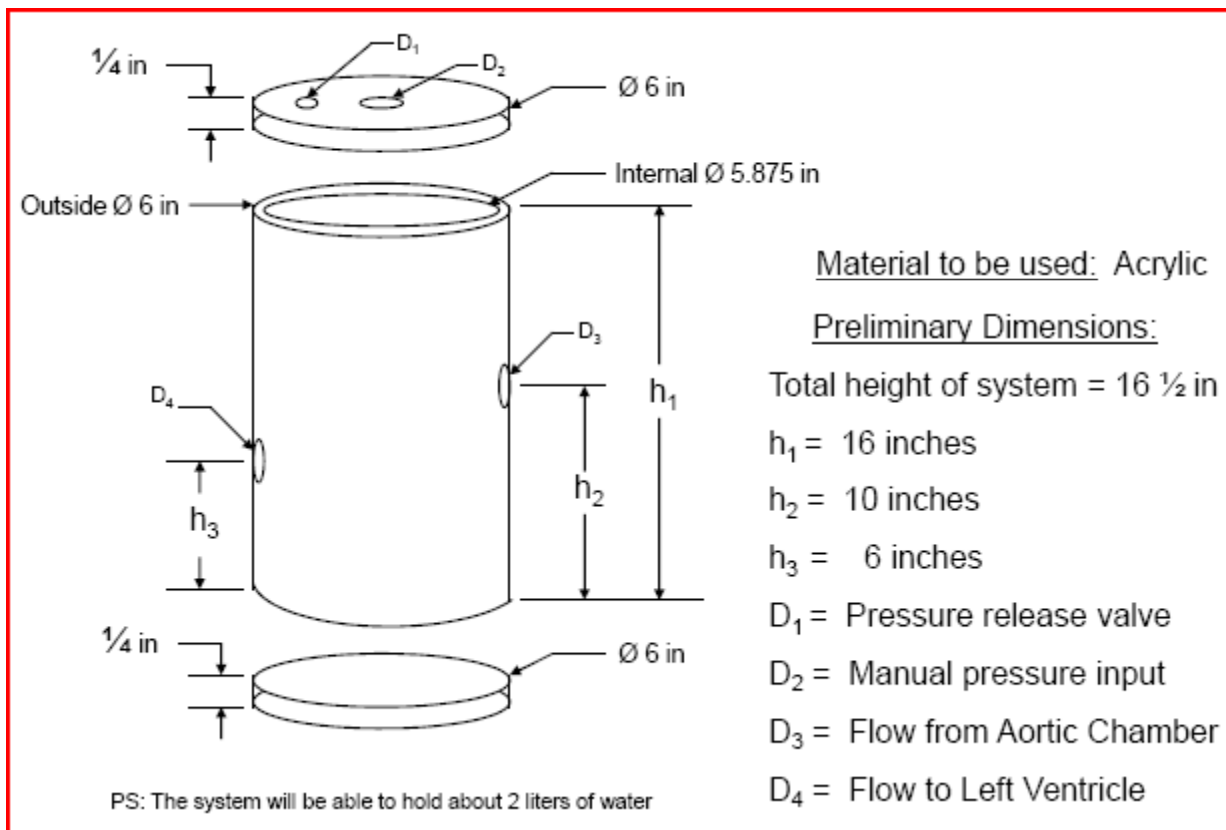




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## Atrial Reservoir (Week 8)



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## Feasibility

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## Actuator Specifications

- [Page 1](#)
  - Displacement, Average Force
- [Page 2](#)
  - Displacement needed for different air column & water levels
- [Page 3](#)
  - Force required
- [Page 4](#)
  - Actuator specs. finalized

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## Risk Assessment

[Risk Assessment \(Rev. 3\)](#)

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## Team Schedule

	<b>Alex</b>	<b>Clarissa</b>	<b>Gaurav</b>	<b>Joe</b>	<b>Jonathan</b>	<b>Liliane</b>	<b>Mark</b>
11:00 AM	Continue testing the Flow Meter and Pressure Sensors			Continue designing heart stand, & buffering chamber		Finalize Atrial Chamber design	Finalize the Actuator price quote
12:00 PM							
1:00 PM	LUNCH						
2:00 PM	Test flow meters	Search for technical data for pressure transducers	Test pressure sensors	Continue Effort	Continue Effort	Update LabVIEW program	Start designing actuator mount
3:00 PM							
4:00 PM	Setup DAQ & begin recording data			Confirm the actuator			

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Questions ?