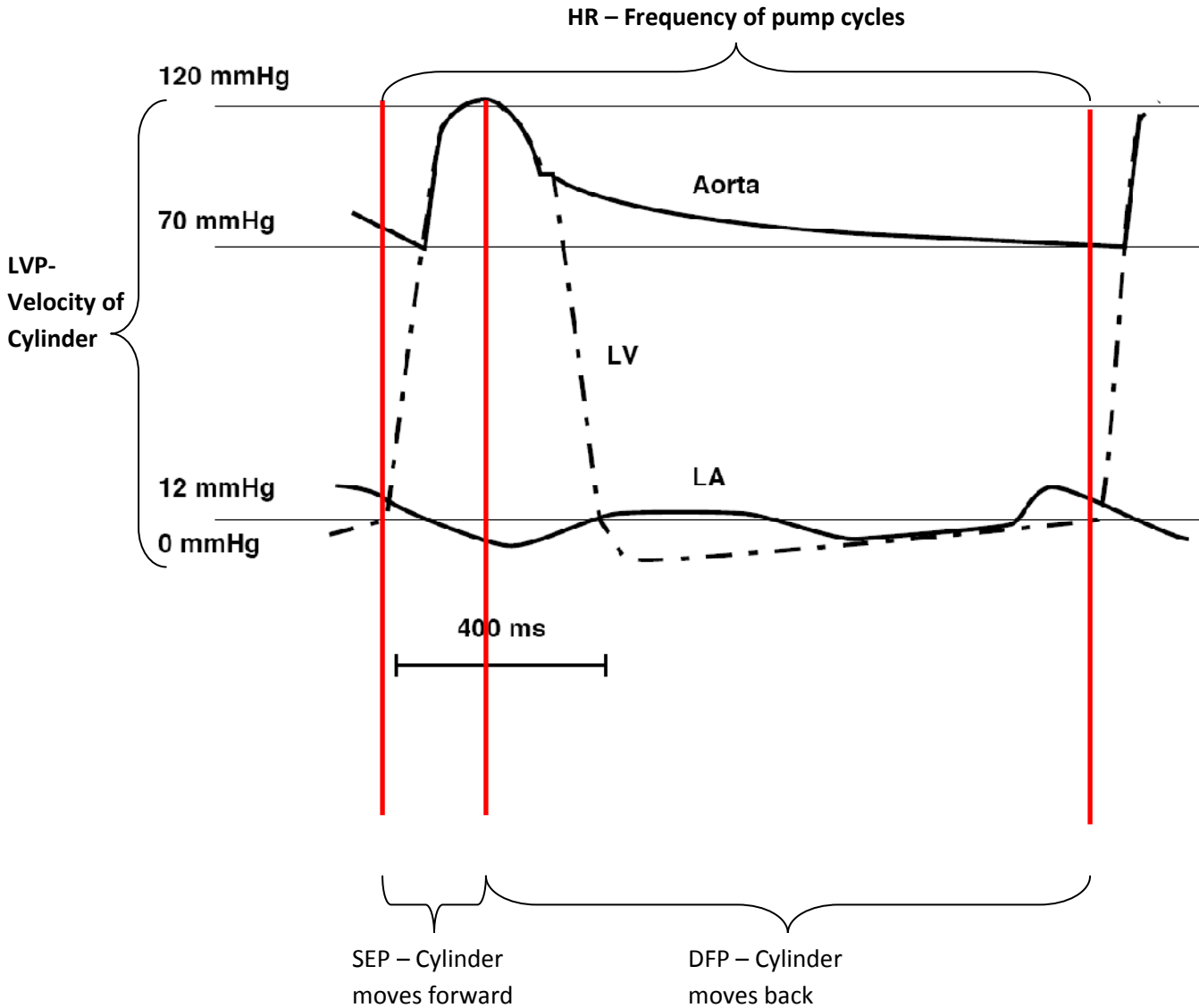


Hemodynamic Simulator II

Controller Inputs and Outputs



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.

As mentioned above, the operator of the Hemodynamic Simulator will have control over three parameters: Left Ventricular Pressure, Systolic Ejection Period, and Heart Rate

The following explains how each parameter will function.

Systolic Ejection Period (SEP)

The SEP will be equivalent to the time it takes the cylinder to move forward. This forward movement in the cylinder will result in an increase of pressure in the system. The returning movement of the cylinder is equivalent to the Diastolic Filling Period. The DFP will not be explicitly controllable, but will change depending on the SEP and the HR.

Heart Rate (HR)

The HR will be proportional to the inverse of the RR interval. The RR interval is the sum of the SEP and DFP. In the cylinder, the RR interval will be equivalent to the time it takes the cylinder to move forward and return once.

Left Ventricular Pressure (LVP)

The LV Pressure will be proportional to the velocity of the actuator. The pressure in the system will be directly controlled by the displacement of the actuator, but the displacement will not be explicitly controlled. The change in displacement will be a result of the velocity of the actuator and the SEP.