CLAIMS

1. A pump system (100) configured for negative pressure wound therapy, the pump system comprising:

a pump assembly (400) comprising:

an actuator (600); and

a diaphragm (550); and

a controller configured to control operation of the pump system, the controller further configured to:

apply a drive signal to the pump assembly, the drive signal alternating between a positive amplitude and a negative amplitude and the drive signal having an offset; and

sample a pressure within a fluid flow path configured to connect the pump assembly to a wound dressing configured to be placed over a wound during one or more time intervals, wherein each of the one or more time intervals occurs when the drive signal is approximately at an amplitude equal to one or more sampling amplitudes.

2. The pump system of Claim 1, wherein the sampling amplitude comprises a local maxima of the amplitude.

3. The pump system of Claim 1 or 2, wherein the sampling amplitude comprises a local minima of the amplitude.

4. The pump system according to any of Claims 1-3, wherein the sampling amplitude comprises a zero crossing of the amplitude.

5. The pump system according to any of Claims 1-4, wherein the sampling amplitude comprises an offset crossing of the amplitude.

6. The pump system according to any of Claims 1-5, wherein the controller is further configured to sample the pressure at least twice during each of the one or more time intervals.

7. The pump system of Claim 6, wherein the controller is further configured to average the pressure samples during each time interval.

8. The pump system of any of Claims 1-7, wherein the controller is further configured to adjust at least one parameter of the drive signal based on the pressure samples.