CLAIMS

1. An apparatus for use in negative pressure wound therapy, comprising:

a pump assembly (400), comprising:

a pump housing (420);

a magnet (540) positioned within the pump housing;

an electrically conductive coil positioned within the pump housing; and

a diaphragm (550), wherein the coil is directly or indirectly coupled with the diaphragm and is configured to move at least a portion of the diaphragm to pump a fluid through the pump assembly; and

a dampener (902) positioned within the pump assembly configured to reduce sound generated by the pump assembly during operation of the pump assembly;

wherein the pump housing comprises a chamber (430) and the dampener is positioned within the chamber and wherein the chamber is integrally formed with the pump housing.

2. The apparatus of Claim 1, wherein the dampener comprises a porous material configured to allow fluid to flow through the dampener and wherein the porous material is urethane foam.

3. The apparatus of Claim 1, further comprising a diffuser positioned within the chamber, the diffuser configured to facilitate expansion of fluid as it enters the chamber.

4. The apparatus of Claim 1, wherein the pump housing further comprises an exhaust channel configured to communicate fluid flow out of the pump assembly, and wherein the chamber is in communication with the exhaust channel.

5. The apparatus of Claim 4, wherein the exhaust channel comprises an opening along the channel configured to redirect a portion of a fluid flow from the exhaust channel back into an internal volume of the housing, wherein said redirection is configured to reduce sound generated by the pump assembly during operation of the pump assembly.

6. The apparatus of Claim 5, wherein the portion of the fluid flow from the exhaust channel comprises an entirety of a fluid flow from the exhaust channel.

7. The apparatus of any previous claim, further comprising a manifold positioned such that the manifold is between the pump assembly and a wound dressing when the apparatus is in use.

8. The apparatus of Claim 7, further comprising a diffuser positioned within the manifold.

9. The apparatus of Claim 7, further comprising a second dampener within the manifold.

10. The apparatus of Claim 9, wherein the second dampener comprises a porous material configured to allow fluid to flow through the dampener and, wherein the porous material of the second dampener is urethane foam.

11. The apparatus of any previous claim, further comprising a control board and, further comprising an electrical conduit for connecting the control board to the electrically conductive coil.

12. The apparatus of any previous claim, further comprising a wound dressing configured to sealingly surround a wound.

13. The apparatus of any previous claim, comprising a spring member, wherein:

a periphery of the spring member is supported within the pump assembly so as to be in a fixed position relative to the diaphragm; and

a middle portion of the spring member is configured to deflect relative to the periphery of the spring member when a middle portion of the diaphragm axially deflects.

14. The apparatus of any previous claim, wherein the dampener is a filter configured to filter fluid as it flows through the dampener.

15. The apparatus of Claim 1, further comprising a dampener positioned on an exterior surface of the pump housing.