**Performance Specifications**

The pH meter must be able to read the pH of the water in the humidifier as well as the temperature of the water and display it to an external LCD screen. Our pH sensor will be calibrated with known pH’s of common household substances. We tested the use of lemon juice and lye to calibrate our pH meter. The lemon juice and lye solutions have pH’s of two and thirteen respectively. To calibrate there will be a menu that will be navigated with three buttons on the front of the device. The calibration program will require the user to insert the pH meter into solutions with the pH’s stated above. If the pH of the solution varies from that stated above, the code will automatically calibrate the tester to those readings. The sensors and their calibration/use must be user friendly so that many people even those with little computer knowledge will be able to use and calibrate the device. The module must be small so that it is portable and able to be used on many different incubators. The pH reading will indicate the presence of bacteria or the lack thereof in the water in the humidifier proving that it is safe to use. The temperature sensor checks that the temperature of the water is safe for the child in the incubator and it does not exceed safe levels.

**Proof of Performance**