ABSTRAK

Oxygen Analyzer merupakan alat ukur kadar oksigen dalam suatu gas. Dalam bidang kesehatan Oxygen Analyzer difungsikan untuk mengukur kadar gas oksigen pada Tabung Oksigen, Outlet Gas Medis, Alat Terapi Oksigen, Continuous Positive Airway Pressure (CPAP), Ventilator. Pada umumnya alat CPAP model lama masih sering digunakan untuk pelayanan medis di rumah sakit. Dimana alat ini memiliki pengaturan kadar oksigen tetapi tidak dilengkapi dengan tampilan kadar oksigen, sehingga kadar oksigen yang dikeluarkan belum diketahui kesesuaiannya dengan pengaturan kadarnya. Berdasarkan masalah tersebut, maka penulis membuat alat Oxygen Analyzer, untuk mengetahui kadar oksigen yang dikeluarkan oleh alat sehingga pemberian oksigen ke pasien sesuai dengan pengaturan.

Penelitian dan pembuatan modul ini menggunakan metode Pre-eksperimental dengan rancangan After Only Design yaitu membuat alat "Oxygen Analyzer" yang hasil pengukurannya dibandingkan dengan alat yang tertelusur untuk mendapatkan nilai akurasi yang tinggi.

Berdasarkan hasil pengukuran pada alat CPAP di Rumah Sakit maka diperoleh tingkat kesalahan pembacaan (%error) yaitu 0,05% pada kadar oksigen 20%, 0,05% pada kadar oksigen 30%, 0,05% pada kadar oksigen 40%, 0,03% pada kadar oksigen 50%, 0,022% pada kadar oksigen 60%, 0,0262% pada kadar oksigen 70%, 0,0262% pada kadar oksigen 80% dan 0.0185% pada kadar oksigen 90%.

Kata Kunci: Kadar oksigen, sensor oksigen, oxygen analyzer, CPAP

ABSTRACT

Oxygen Analyzer is a measure of the level of oxygen in a gas. In the health sector functioned Oxygen Analyzer to measure levels of oxygen gas in Oxygen Tube, Gas Outlet Medical, Oxygen Therapy Equipment, Continuous Positive Airway Pressure (CPAP) Ventilator. In general, older model CPAP apparatus is still often used for medical services in hospitals. This tool has a setting where oxygen levels but not equipped with display oxygen levels, so that the oxygen levels are not known in conformance with setting levels. Based on these problems, the authors make Oxygen Analyzer tool, to determine levels of oxygen released by the tool so that oxygen delivery to patients in accordance with the arrangement.

Research and manufacturing of this module using Pre-experimental design with After Only Design that makes the tool "Oxygen Analyzer" which measurement results compared with a traceable tool to get the value of high accuracy.

Based on the results of measurements on CPAP apparatus in Hospital then obtained a reading error rate (%error) is 0.05% on the oxygen content of 20%, 0,05% at 30% levels of oxygen, the oxygen content of 0.05% at 40%, 0.03% in oxygen levels of 50%, 0,022% in oxygen levels of 60%, 0.0262% in the oxygen levels of 70%, 0.0262% at 80% levels of oxygen and 0.0185% on 90% oxygen content.

Keywords: : Oxygen levels, oxygen sensors, oxygen analyzer, CPAP