

ABSTRACT

An oxygen concentrator is a medical device used to provide oxygen to people with breathing problems. The oxygen concentrator takes this air and filters the nitrogen through a filter. The device then releases nitrogen into the air and ensures that the wearer breathes air containing pure oxygen. The research conducted in this final project was to determine the effect of the pressure exerted by the compressor on the yield of oxygen purity in the oxygen concentrator using the PSA method. PSA is used to separate or purify components of certain gas mixtures where in the zeolite adsorption tube it will bind nitrogen and release oxygen. After that the oxygen that escapes will enter the container tube and the results of the oxygen concentration will be measured using an oxygen sensor. This study used a pressure variation of 1 – 4 bar with the lowest average purity of 32.73% at 1 bar pressure and the highest average purity of 80.2% at 4 bar pressure.

Keyword: pressure, PSA, oxygen concentrator, purity