The development of combustion technology is getting more sophisticated these days. One of the example is the use of Electronic Fuel Injection (EFI) to replace the carburator. Electronic fuel injecton (EFI) using the computerized electronic devices commonly known as electronic control unit (ECU). ECU works based on the input of several sensors that attached on it. ECU received signals from the sensors and starting to process the data that will be sent as feedback to control the air and fuel respectively to the combustion chamber, effectively and efficiently. One of the sensor used on this process is called O$_2$ gas sensor. The O$_2$ gas sensor need to be calibrated after several use of a certain period.

The calibration method that used in this experiment is the principal of isochoric. In this method, the validation process is performed by vacuuming the test tube up until the desired value of pressure is required, after that the tube is filled by nitrogen until the pressure back to 1 atm and record the oxygen levels that left. From the result of calibration testing, the biggest difference happened on 1.48 bar with the difference of oxygen level between the calibration device and the oxygen sensor by 3.45 %.
Meanwhile, the smallest difference happened on 1.49 bar with the difference of 0.43%.

Keyword: Electronic Fuel Injection (EFI), the Electronic Control Unit (ECU), $O_2$ gas sensor, calibration.