

**DESIGN ENGINEERING SOLUTION FOR HUMIDITY PROBLEM
FACED BY METROLOGY LAB**

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ABSTRACT

Metrology lab at Faculty of Mechanical Engineering UiTM Shah Alam had problem to control humidity. The relative humidity inside the lab now is around 80%-90%. Heater had been installed before but humidity problem still exists. Metrology lab requires temperature about $20^{\circ}\text{C}\pm 1^{\circ}\text{C}$ and 20%-60% Relative Humidity. This requirement is according to the standard of NCSL RP-14 *Guide to Selecting Standards-Laboratory Environment* to maintain the well being of machines inside the lab so that it can function properly and long lasting. The main objective of this study is to design an engineering solution for humidity problem at metrology lab. According to QiQi Etal (1), controlling the flow of blower, the use of heater and dehumidifier could reduce the humidity in the system. A ducting system prototype was designed to simulate the ducting system of the Metrology Lab. Experiment was conducted to monitor and measure humidity and temperature within the prototype. The result of experiment satisfied the objectives.

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