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**COMPARATIVE STUDY OF DIFFERENT WATER
FLOWRATES OF VARIOUS WORKING FLUIDS ON A
COOLING TOWER**

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ABSTRACT

Usage of cooling tower in this experiment will be conducted to determine the mass and energy balance on the cooling tower system and to analyse the effects of the process variables or parameters on the exit temperature of the water. In this experiment, there are several parameters that will be adjusted in order to observe its effects on the evaporation of water for the cooling tower system. The parameters are the water flow rate and the blower condition. The experiment will be carried out with two different cooling liquids which are water and coolant with 10% concentration. Each experiment will be set at constant heater power, 1.0KW, air flow rate at 20 mmH₂O, area of orifice at 20mm, use hot water at 50°C, and various liquid flow rate at ranges of 1.0 LPM to 3.5 LPM at 0.5 interval. This experiment show that cooling tower that use coolant as their cooling liquid is more efficient than water. For the water flowrate we can conclude that the lower water flowrate is more efficient than higher water flowrate.

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