Efficient Water Generation Using Zeolite Based Heating Technology

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This experiment was performed to determine which internal fan speed would be the most efficient when looking at water production within a water production prototype. As the engineering mechanics field develops, it is important to focus development based research on further exploring the field of non-renewable resource production, being not only vital for certain aspects of the industry, but also vital to human life in third world countries with poor to no access to clean and safe potable water. How does the speed of the internal fan of a zeolite-based water generation system affect its water production efficiency? In this experiment, three internal fan speeds were tested, the speeds including 1200 rpm, 1400 rpm, and 1600 rpm. Each fan speed was set to run through a full water production cycle, which lasted around 1 hour, the amount of water produced after each cycle being measured at the end of each trial. The data was compiled by fan speeds and average water production. The average water production calculated for Speed 1, or the fastest fan speed was 208 grams, Speed 2 producing 196 grams, and Speed 3 178 grams. After comparing all the averages, it was found that the fastest internal fan speed was the most water production efficient, producing the most water compared to the other two speeds. Therefore, the hypothesis that if the speed of the internal fan is increased, then the efficiency of the system would proportionally increase, is supported by the data, as Speed 1, containing the fastest rotations per minute, produced 208 grams of water, while the other two speeds only produced 196 grams and 178 grams.

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