



Take advantage of air-cooling water to cool air and conserve water



Presentation of the two students:
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Introduction

Our research aims to find technical engineering solutions for the dry desert environment to reduce the intensity of air temperature, especially in summer.

We live in the Makkah region of western Saudi Arabia. It consists of valleys and hills far from the surface of the water, with little rain, heavy summers, warm winters, and low humidity.

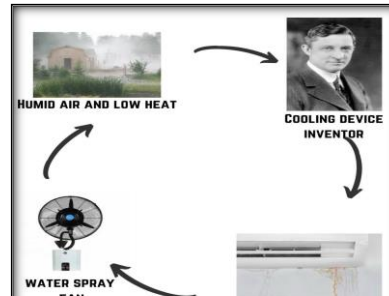
We conducted comparative experiments on a sample of tap water, air cooling water in terms of transparency, electricity, and PH. We found that air cooling water is opaque and is distilled water.

Here, we have two ways to drain air cooler water and use it to moisturize and purify the atmosphere. We collect air cooler water in containers or tank connected to a network of sprinkler fans and pump water and use it in manual spray fans and use it on a personal level or by connecting a spray fan to the water leaking place in air coolers and the electric-powered fan of the air coolers for air coolers to moisturize the atmosphere.

Recommendations

When building, we recommend the architect to develop a tank to collect water from air cooling devices.

We recommend that air-cooling plants produce air cooling devices connected to the water leak site with an external electric-powered spray fan for air coolants.



Sources

Ali Awed Ali. Air conditioning systems in buildings: problems and solutions. Diss. Sudan University of Science and Technology, 2009

Munir, S., Habibullah, T. M., Saraji, A. R., Morsy, E. A., Mohammed, A. M., Saud, W. A., ... & Awed, A. H. (2013). Modeling particulate matter concentrations in Makkah, applying a statistical modeling approach. *Aerosol and Air Quality Research*, 13(3), 901-910.

Search question

This study aims to take advantage of the water of air-cooling devices in the soothing and purifying of the atmosphere (environmental engineering)

Climate.

We noticed a leak of water from air coolants.

Hypothesis question

Can we recycle water leaking from cooling devices to cool and lower the ambient air temperature?

She asks us:

- 1/ How can summer heat be reduced?
- 2/ What are the properties of air-cooling device water?
- 3/ Why does water come out of air coolers?
- 4/ What is the difference between tap water- and air-cooling device water?
- 5/ What is the damage to the leakage of air-cooling devices on buildings and the environment?
- 6/ How do we benefit from the water of our air-cooling devices in our life?
- 7/ Can air cooling device water be used to moisturize the atmosphere?