Performance of Conditioning Desiccant Evaporative Cooling Cycles in Damascus city[1]

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Abstract

This research aiming to evaluate the conditioning desiccant evaporative cooling cycles and compare it as it works in meteorological conditions of Damascus city. Four cycles were studied ,Ventilation Cycle, Recirculation Cycle, Duncle Cycle and Modified Ventilation Cycle. Performance maps of these cycles were drawn to compare and evaluate them easily. The results of this research reveal that Ventilation Cycle was the best as it has the best thermal performance coefficient and cooling effect. All cycles except Modified Ventilation Cycle have good performance as it use relatively low regeneration temperatures between (60-80)C. Consequently, solar collector or waste heat can be used to get these temperatures.

For the paper in Arabic see pages (207-231).[1]

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