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Performance Analysis of Atmospheric Water Extraction by Refrigerator Cum Air Conditioner

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Abstract: *India is blessed with warm and humid climatic conditions in most of its states containing huge amount of water in atmosphere which can fulfill the increasing water demands. Atmospheric water extraction is one of the technologies where fresh water is obtained from the ambient air by condensation. The atmospheric water extracting device is working on vapour compression refrigeration cycle. In this cycle the evaporator inlet temperature is maintained at a temperature lower than the dew point temperature of the atmospheric incoming air. Therefore, the moisture present in the air condenses over the coil and it will be collected. The amount of condensate depends on psychrometric conditions of incoming air. The present work concludes that atmospheric water extracting devices are most effective in hot and humid regions. when the humidity level in atmosphere is being 56%, 8.3ml/min water is extracted and when the humidity level in atmosphere is being 36%, 1.7ml/min water is extracted.*

Keywords: Vapour Compression, Refrigerator, Water extractor.

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