

Abstract

Aly I Shehata

Performance Enhancement of Vapor Absorption Air Conditioning Systems using different modes

The absorber is one of the most critical components in the vapor absorption systems since it is one of the largest components and has complicated heat and mass transfer mechanism which influences the system performance significantly. The absorption enhancement techniques are studied by many researchers through two main methods: the chemical treatment and the mechanical treatment. An experimental test rig was especially designed and developed in this work in order to study the effect of different modes like stirrer mode and additive mode on performance parameters like absorption rate and mass transfer coefficient which presents the performance of the absorber. As a result of this work, it was found that the use of stirrer mode and additive mode increases the absorption rate and the mass transfer coefficient significantly.