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An Experimental Study with Condenser Embedded Adsorber

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Abstract **-** In this paper, in order to increase the adsorption chiller performance a new type adsorbent bed with embedded condenser is designed and constructed. By this condenser embedded adsorbent bed design, not only the performance increase but also the weight reduction of the adsorption chiller is achieved. Experiments were performed with Silica gel RD type adsorbent and water pair. The experiments were performed and the results are given for the novel adsorption chiller. The average adsorbent bed temperatures and concentration changes for adsorption/desorption processes for the specified conditions are measured and shared in this paper.

Keywords**:** adsorption; embedded condenser; heat and mass transfer; experimental