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[摘要]

本實驗以矽膠和水做為吸附配對，針對微鰭管應用在吸附空調系統之蒸發/冷凝器做性能探討，主要以矽膠吸附量及蒸發/冷凝器兩實驗組比較。填充水量為2000cc的實驗結果顯示，吸附過程微鰭管實驗組吸附床冷卻水出入水溫差平均值約為0.2℃。微鰭管式溫差約為平滑管式的1.7倍，約為無通水至蒸發/冷凝器的2.5倍。吸附過程微鰭管實驗組蒸發/冷凝器冷卻水出入水溫差平均值約為0.4℃，微鰭管式約為平滑管式的2倍。脫附過程微鰭管實驗組吸附床熱水出入水溫差平均值約為1℃，平滑管式約為0.9℃。脫附過程微鰭管實驗組蒸發/冷凝器冷卻水出入水溫差平均值約為1.3℃，平滑管式約為0.9℃，微鰭管式約為平滑管式的1.5倍，在此三實驗組中為最大。

[英文摘要]

The purpose of the research is to analyze the performance of low-fin tube applied to the evaporator/condenser of the adsorption air conditioning system. The amount of adsorption and desorption of system utilizing low-fin tube is the point we focused. It would be compared with smooth tube and experiment which not connect chilled/chilling water to evaporator/condenser. When the amount of adsorption process reveal that the cooling water average temperature difference in adsorber of the low-fin tube, smooth fin tube and no connect chilled water experiment is about 0.2℃, 0.5℃, 0.3℃ and 0.2℃, respectively. It of the low-fin tube experiment is more 67 and 150 percent than the smooth fin tube and no connect chilled water experiment respectively. The consequences of adsorption process also reveal that the chilled water average temperature difference in adsorber of the low-fin tube experiment is about 0.8℃ and 0.4℃, respectively. It of the low-fin tube experiment is more 100 percent than the smooth fin tube and no connect chilled water experiment. The consequences of desorption process reveal that the heating water average temperature difference in adsorber of the low-fin tube experiment is about 1℃, 0.9℃ and 0.9℃, respectively. It of the low-fin tube experiment is more 11 percent than the smooth fin tube and no connect chilled water experiment. The consequences of desorption process also reveal that the cooling water average temperature difference in adsorber of the low-fin tube experiment is about 1.3℃ and 0.9℃, respectively. It of the low-fin tube experiment is more 44 percent than the smooth fin tube and no connect chilled water experiment having more amount of adsorption and desorption than the smooth fin tube and no connect chilled water experiment.

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