化工学报 2008 59 (1): 6-11 ISSN: 0438-1157 CN: 11-1946/TQ

传递现象

基于热质传递解耦特性的溶液除湿过程传热传质系数(Ⅰ)模型与Le-h_D分离测量法

殷勇高，张小松

东南大学能源与环境学院

收稿日期 2007-5-8 修回日期 2007-9-4 网络版发布日期 2008-1-14 接受日期

摘要

溶液除湿过程是溶液除湿空调系统中的一个非常重要的耦合传热传质过程。本文对填料塔结构的溶液除湿器建立了一种*NTU-Le*模型，并基于此模型得到了溶液除湿过程传热传质特性——Lewis数对空气出口含湿量基本无影响，提出一种溶液除湿耦合热质传递过程的热质传递解耦方法——Le -h_D分离测量法，来测定溶液除湿过程的耦合传热传质系数。

关键词

溶液除湿剂 除湿 传热传质系数

分类号

Heat and mass transfer coefficients based on decoupling characteristics of heat and mass transfer between liquid desiccant and air (Ⅰ)*NTU-Le* model and Le-h_D separative evaluation method

YIN Yonggao, ZHANG Xiaosong

Abstract

Liquid desiccant dehumidification process is an important process of liquid desiccant air conditioning systems with coupled heat and mass transfer.The *NTU-Le* model was developed to describe the liquid desiccant dehumidification process in this paper, and according to the model the characteristics of liquid desiccant dehumidification were presented. Lewis number *Le* had little effect on outlet air humidity ratio.Based on the characteristics a new method called Le-h_D separative evaluation method was developed for determining coupled heat and mass transfer coefficients between air and liquid desiccant.

Key words

liquid desiccant dehumidification heat and mass transfer coefficients

DOI:

通讯作者 张小松 rachpe@seu.edu.cn