

变工况下微通道两相换热器性能模拟

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摘要：

利用均相模型对微通道两相换热器（蒸发器、冷凝器）进行模拟，通过制冷工质R134a热力状态及参数的计算模拟换热器设计工况下的稳态情况。首先建立换热器仿真模型，得出设计工况下的换热器设计结果，然后在此基础上，着重分析当外界温度、进出口状态以及质量流量发生变化时，相应的换热器性能参数变化情况，以及相关影响因素。

关键词：微通道；换热器；变工况；均相模型

Simulation of micro-channel two phase heat exchanger on various working conditions

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Abstract:

This paper simulated micro-channel two-phase heat exchangers' (evaporator and condenser) steady working performance, which is on design working condition, by using homogeneous two-phase flow model. First of all, we establish heat exchanger simulation model respectively, then obtain heat exchanger design result through choosing appropriate correlations which have been proved by former researchers. Several factors' impacts on heat exchanger performance have been analyzed, which include inlet refrigerant condition of heat exchanger, outside air temperature and mass flow rate.

Keywords: micro-channel; heat exchanger; various conditions; homogeneous two-phase flow model

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