

## 上下冲击式鼓风冻结装置传热系数的计算

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关键词: 传热系数 冻结装置 上下冲击式 翅片管式蒸发器

摘要: 以上下冲击式高效鼓风冻结装置为参照, 预定蒸发器各设计参数, 选用铝管铝翅片的直接蒸发式空气冷却器, R717为制冷剂, 设定70kW制冷能力。分别计算空气侧和制冷剂侧表面传热系数, 不计管内污垢热阻, 整理归纳出计算该类装置蒸发器传热系数的方法。通过对该结构蒸发器进行现场测试, 验证了理论计算方法的合理性。Based on the structure of an imported impingement air blast freezer, the design parameters of the evaporator with aluminum tube and fin were predefined. The refrigerant was R717, and refrigeration capacity was 70kW. Heat transfer coefficient of air and refrigerant were calculated separately, regardless to the influence of dirt in the tube, the method for calculation heat transfer coefficient of this kind of evaporator was gained. By way of the experimental investigation on this type of evaporator, the calculation method was indicated to be reasonable.

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