

微波真空冷冻干燥装置设计与试验 Design and Experiment on Microwave Vacuum Freeze Drying Equipment

曹有福 韩清华 李树君 杨炳南 赵庆亮 马季威

中国农业机械化科学研究院

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摘要: 阐述了微波真空冷冻干燥装置的总体结构、工作原理以及微波冻干仓的设计要点,详细分析了微波谐振腔、微波真空屏蔽结构和玻璃真空罩的设计,确定了主要工作部件的具体结构和相关参数。冬枣冻干试验研究表明,整机结构合理,性能稳定,安全可靠;与普通真空冷冻干燥相比,在产品质量相同的条件下,干燥时间节省了40.9%,能耗降低55.86%。The overall structure, working principle and design points of microwave vacuum freeze drying equipment were described. A detailed analysis on microwave synton cavity, microwave shielding structure and the design of glass vacuum cover was made. The specific structure and related parameters of main working parts were determined. The study on freeze drying of winter Chinese date showed that the equipment had the characteristics of rational structure, stable performance, and safe and reliable running process. Compared to the ordinary vacuum freeze-drying technology, it could produce the same quality product while saving 40.9% drying time and 55.86% energy.

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