

轴流风送静电喷雾试验 Experimental Study of Axial-flow Air-assisted Electrostatic Spraying

闻建龙 张星 宋晓宁 王静

江苏大学

关键词: 静电喷雾 气相流场 轴流 导流器 试验

摘要: 运用高压静电雾化和轴流风送技术设计了轴流风送高压静电喷雾试验装置, 在风机出口设置导流器以提高流场品质。对气相流场、雾滴粒径、沉积分布进行了试验研究。结果表明: 轴流风送静电喷雾技术可以有效地细化雾滴粒径, 改善喷雾的均匀性和沉积性能, 减少环境污染。灭菌测试表明静电的作用能增强雾滴的表面活性, 提高雾滴捕捉细菌粒子的能力, 灭菌效率提高了20%。 High-voltage electrostatic spray tester was designed through combination of high-voltage electrostatic spraying and axial-flow air-assisted techniques with the fluid director applied for the experiment of spray. Experimental study for air flow field, droplet size, and deposition were performed. Results indicated that technology of axial-flow air-assisted electrostatic spraying can effectively decrease the droplets diameter, makes droplets distributing more uniform and deposition better, which reduces the environmental pollution. At the same time, the electrostatic function makes the droplets more activated, and improves the ability of absorption, with the increase in sterilization efficiency by about 20%.

[查看全文 \(请使用Adobe Acrobat 6.0版本浏览\)](#) [返回首页](#) [引用本文](#)