Improved Liquid Sanitization Cyclic Filtration System

Improved cyclic filtration system for sanitizing water in agricultural, industrial, and public health and safety applications

John Pierson of the Agricultural Technology Research Program at GTRI has developed a cyclic filtration system involving an oscillating transmembrane and positive and negative shear rates against the membranes for more efficient filtration processes and reduced maintenance. The improved cyclic filtration system facilitates more efficient removal of many biological, chemical, and physical contaminants from the liquid product stream and filter membranes. The back-washing feature mitigates contaminant residues on the filter membranes to ensure continuous and reliable system operation. As a result, the self-cleaning feature improves liquid product purity.

Summary Bullets

- Biological, chemical, and physical contaminants are extracted from liquids and discharged as separated waste while the system is in operation
- Extracted contaminates are continually flushed from the system to reduce residue accumulation on the filtration membranes
- Self-cleaning filter design allows the system to operate more efficiently than traditional water filtration methods

Solution Advantages

- Biological, chemical, and physical contaminants are extracted from liquids and discharged as separated waste while the system is in operation
- Extracted contaminates are continually flushed from the system to reduce residue accumulation on the filtration membranes
- Self-cleaning filter design allows the system to operate more efficiently than traditional water filtration methods
- Reduced filtration system maintenance

Potential Commercial Applications

- Improve poultry house bird stocks
- Improved cyclic filtration system

- Municipal water sanitation

Background and More Information

Cleanliness in livestock production areas is absolutely necessary for healthy animals. Furthermore, efforts to improve water quality may have positive effects on publication relations and acceptance, better target market positioning, and, ultimately, increased sales. The current cyclic filtration systems are hindered by a build-up of contaminants and residues on the filtration membranes, which reduces the efficiency of the system, leading to frequent maintenance. There is a pressing need to improve current commercial designs.

Inventors

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IP Status

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Publications

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Images

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