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(54) Title: BIOREACTORS CONFIGURED FOR UV STERILIZATION, AND METHODS OF USING UV STERILIZATION IN BIOPROCESSES

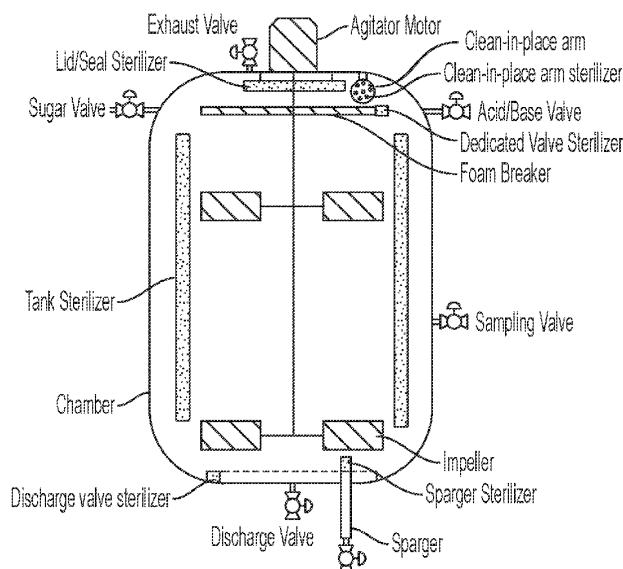


FIG. 1

(57) Abstract: In some variations, a UV-sterilizable bioreactor system comprises: a chamber configured to carry out a reaction; a component configured for introducing a gas into the chamber; and one or more UV light sources configured to expose ultraviolet light to surfaces within the chamber. Some variations provide a method of cleaning and sterilizing a bioreactor, comprising: providing a bioreactor system with a chamber to carry out a reaction, a component for introducing a gas into the chamber, and one or more UV light sources to expose ultraviolet light to chamber surfaces; cleaning the chamber; and exposing the chamber to UV radiation to sterilize the chamber. The disclosed technology is a fundamental advance in the field of sparged bioreactors, for many types of commercial fermentations. The bioreactor may incorporate materials that are expressly incompatible with steam sterilization, which allows for the use of lower-cost materials, among many other benefits from UV sterilization.

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