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A resistance-based approach to scale-up of membrane filtration

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n bioprocessing, membrane filtration is a necessary tool for clarification of streams, purification and sterilization. For process evaluation, usually test filtrations are made with small-scale filter discs. A commonly discussed approach to the scale-up of membrane filtration is the Vmax-model. There the maximum throughput (Vmax) of the test solution is determined. According to the batch size, the necessary filter area can be calculated using a safety factor. In this work, a resistance-approach was chosen. As a test membrane a 0.2 μ m PES-Membrane is used. The membrane resistance is calculated and its change examined in dependence of throughput under different process conditions. As a test fluid, a particulate solution is used that, according to previous measurements, shows no relationship between the process conditions and the filtration performance.

Biography

Susanne Haindl finished her MSc in Chemistry in 2016 and joined Sartorius Stedim Biotech for her PhD thesis in the same year. Her work is about process filtration in biopharmaceutical industry, and the focus is both on the characterization of protein model solutions and on the examination of filtration process conditions.

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