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ABSTRACT

AMERICAN FILTRATION SOCIETY CONFERENCE SESSIONS: FUNDAMENTALS AND APPLICATIONS – SOLID / LIQUID SEPARATION IN THE CHEMICAL INDUSTRY

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Scale-up of Basket Filtration Centrifuges and a Review of the Principles of Basket Centrifugation

Basket centrifuges are employed extensively in the chemical industry for various types of solid / liquid filtrations. The type of basket centrifuge to be selected for industrial service is dependent on the specific characteristics of the solid / liquid system. Every solid / liquid system has its own properties. In order to predict performance, testing must be conducted with laboratory or pilot scale equipment. Pilot scale basket centrifuges can be used to accurately predict the cycle parameters. Parameters such as particle size, liquid viscosity, cake compressibility, and wash liquor ratio are such examples. Darcy's Law will be reviewed in this presentation.

There are two approaches to scale-up of a basket filtration centrifuge; scale-up by filtration area and scale-up by volume. The determination of which method to be employed will be reviewed.

In this presentation, we will review the specific steps of a basket filtration cycle and their impact on equipment performance.

BioSketch

Rob Driscoll has a BSChE from Michigan State University, and has worked for Robatel Inc. for 12 years as a senior application engineer who is responsible for the start-up, commissioning, and process optimization of Rousselet Robatel's solid / liquid centrifuges and liquid / liquid centrifugal extractors.