

Abstract

And the Rest of the Story

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In many applications for Cross Flow filtration, the purpose of the process is to clarify a feed fluid of undesirable materials such as particles, molecules, and dissolved solids. Cross flow filtration processes can be very effective in removing these materials with efficiencies greater than 99% with a design that can provide an economical long service life. This leaves the undesirable materials on the feed side of the filter, often in concentrated form, to be discharged into the environment. An unmet challenge to the filtration and separation industry is how to economically handle these fluids in an environmentally friendly format.

This paper will identify several different applications in which cross flow filtration plays an important role in being environmentally responsible by reducing waste, minimizing energy consumption, and isolating potentially damaging materials. The filtration and separation industry could be more environmentally conscious by providing lower volume, higher concentrated waste streams. The challenges outlined in these examples are to accomplish this economically by minimizing energy consumption, high effective use of the separation device, and maximum final concentration.