NEW LOGIC Application Note

Algae Dewatering with VSEP

New Logic Research has a unique filtration separation process that involves vibrating polymeric membranes. Membranes are able to give you very precise separation based on particle size and molecular weight. The vibratory aspect of our membrane module prevents clogging that you would find in static or crossflow membrane separation processes. The combination of precise particle size separation and anti-plugging characteristics of our equipment make it unique in the marketplace

New Logic has been involved in many process development projects having to do with renewable energy emerging just in the last few years. Most interesting of these is the use of specialized Algae that produces oil that can be harvested and used as a biofuel. VSEP can be used to dewater the algae after it is collecting from the growing ponds. Algae do not settle well and would clog a conventional filter, so VSEP offers a unique solution for economical processing.

Process Objectives

After growing, algae need to be harvested for biofuel production. The amount of water that must be removed is very large. There are many ways to produce this algae and the carrier fluid may be saline. Current options for algae dewatering include: Flocculation/Dissolved Air Floatation, Centrifugation, and Electro-coagulation. The later two above may cause some degradation of the algae product. The filtrate would contain nutrients and could be returned to the growing baths.

VSEP could be used to polish any Algae that leak from Centrifugation or Coagulation. Or, VSEP alone can be used for dewatering using a microfiltration membrane. VSEP has many advantages including: Simplicity and easy to use, Small Footprint, Good suspended solids removal rate, and Low Energy Consumption.

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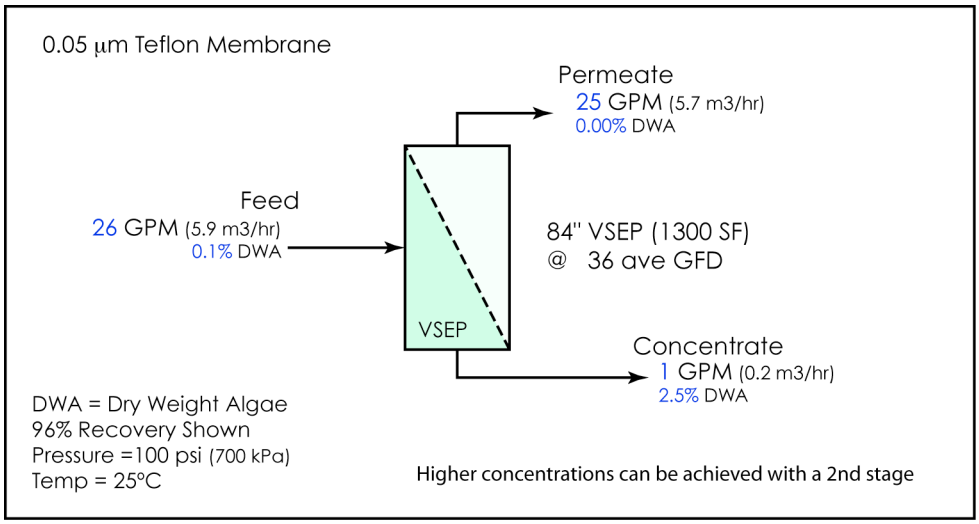
New Logic has completed several pilot trials for algae biofuel clients. The results indicate that the VSEP can accomplish a 25x concentrate of the algal biomass removing 96% of the volume as saline water that can be returned to the process.



Contact a New Logic representative to develop an economic analysis and justification for the VSEP in your system. For additional information and potential application of this technology to your process, visit New Logic's Website @ http:/www.vsep.com or contact New Logic.

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