

## SPECIALIZING IN MEMBRANE FILTRATION/SEPARATION

For years, you've known PCI Membrane Systems as a leading supplier of custom-built crossflow membrane filtration systems for liquid separation in the process industries. Recently, several of the key people behind PCI formed a new company, Membrane Specialists LLC, and have been named as exclusive distributors of PCI Membrane products in the Americas.

With experience developed over three decades, Membrane Specialists is able to offer innovative, customized process solutions for a wide variety of filtration and separation applications using microfiltration, ultrafiltration, nanofiltration and reverse osmosis technologies from among the full range of membrane geometries, including spiral wound, hollow fiber and both ceramic and polymeric tubular membranes.

If you already know what membranes can do, or if you are simply curious about how the technology might work in your application, call Membrane Specialists. Our wide-ranging experience, process expertise, engineering design and testing capabilities mean we can help you every step of the way, from feasibility studies to piloting to plant design, build and installation, and technical support.



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[www.membranespecialists.com](http://www.membranespecialists.com)

- Bio-Fuels & Bio-Products
- Fine Chemicals
- Food & Beverage
- Industrial Effluent
- Nutraceuticals
- Pulp & Paper
- Water Treatment

## MEMBRANE FILTRATION SOLUTIONS

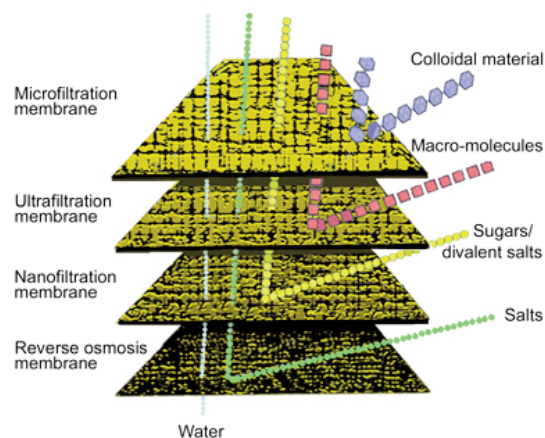


# SEPARATION CHALLENGES?

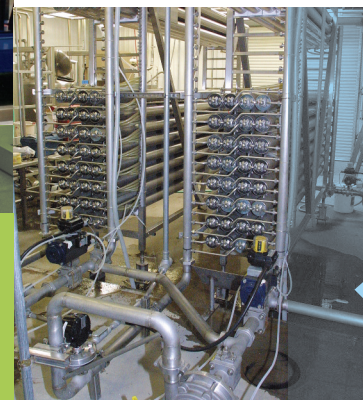
## Membranes May Help!

When process engineers need to separate, clarify, or fractionate process streams — and where they demand reliable and repeatable performance — membrane filtration systems are frequently becoming the first choice. It is a versatile technology and cost-effective for many different separation applications. Membrane filtration involves no added chemicals, is relatively energy efficient, and involves well-defined, proven processes.

At its most basic level, membrane filtration separates a single flow into two streams, one more concentrated than the other, by using pressure to selectively pass material through a semi-permeable physical barrier — a membrane. With the ability to separate particulates from the dissolved species and separate dissolved species themselves, a membrane system can be used to produce a more concentrated or purified end-product. Applied to a waste stream membrane technology can enable product recovery, water reuse and reduced waste disposal costs.



*Depending on the application requirement, a separation system can incorporate one or more different types of membranes. Here, an ultrafiltration system (foreground) and a reverse osmosis stack (back right) are combined to handle chemical effluent.*



*This tubular membrane filtration plant incorporates 80 reverse osmosis modules to concentrate sugar from the wastewater generated by a fruit processing plant.*

CHOOSING THE RIGHT MEMBRANE  
FOR EACH APPLICATION IS VITAL, AND  
MEMBRANE SPECIALISTS CAN HELP.

## WHY MEMBRANE SPECIALISTS?

- Independent process and membrane evaluation
- Applications and process development
- Rental of pilot equipment from our extensive inventory
- Capital plant and process operational cost projection
- Engineering and system design, build and installation
- Operator training and technical support for optimal plant performance
- On-site support or modem-based monitoring and control adjustment
- Supply of replacement membranes and parts
- Consultancy services

## VERSATILE MEMBRANE TECHNOLOGY

- Microfiltration, ultrafiltration, nanofiltration and reverse osmosis
- Tubular (polymeric and ceramic), spiral-wound, hollow-fiber membranes
- Tubular membranes for difficult-to-handle, fouling feed streams, including high levels of suspended solids and fibers
- High-temperature/high-pressure operation
- pH capable from 0-14
- Solvent-resistant
- Energy efficient