ULTRAFILTRATION & MICROFILTRATION

Ultrafiltration and Microfiltration are primarily used for the removal of bacteria, viruses, suspended solids, colloids and pathogens. Turbidity removal and log removal credits of Cryptosporidium and Giardia is a typical application.

The Ultrafiltration Process

This process typically uses polymeric hollow fibers with nominal pore diameters ranging from 0.01-0.05 microns, for absolute removal of targeted suspended particles and microorganisms. The technology works by applying pressure to take feed water from one side of the fibers through the fiber wall. All of the contaminants in the water are trapped at the surface of the fiber and separated from the clean water.

Hydra$_{MAX}$ Control System

We are proud to work closely with Delco's Automation division to deliver sophisticated automated systems that ensure operator confidence in the status of the system, deliver on treated water volumes, and adhere to the latest in industry advances such as HMI interfacing and membrane maintenance modes. Our skidded modular solutions come complete with our Hydra$_{MAX}$ automated control system:

- Interface allows users to trend all membrane related health metrics, track system upsets, and flag concerning situations or changes
- Features high-performance HMI screens and a control system developed in house
- Integrated industry updates, field service and site feedback and apply to our instrumentation selection, operation modes, and control features

The Ultra$_{FX}$ Process

Ultra$_{Fx}$ is a two-step solution popularized by Delco Water for cold surface water applications where the primary items of concern are turbidity, dissolved organic carbon and colour. Ultrafiltration is used as the primary pre-treatment to remove turbidity and total suspended solids. Chlorine tolerant membranes are used in a Nanofiltration system to remove dissolved organics and colour, while allowing the passage of the majority of other dissolved constituents such as hardness and other trace metals. This strategy chases the items of concern without over treating the water, resulting in minimized chemical and energy consumption.