

## Micro Filtration Systems

Kontek Ecology Systems Inc. has been a leading manufacturer and pioneer in the water treatment for over 30 Years.



The Microfiltration system is designed to remove suspended solids up down to 0.1 microns in size, in a feed solution with up to 2-3% in concentration, and is very suitable for use in place of a traditional clarifier or as a pre-filter to a water recycling/recovery RO water system. The Microfiltration System utilizes high quality membranes manufactured in North America by DURAFLOW. Our systems and membranes have the following features:

### **MF System Features:**

- Will remove suspended solids from treated wastewater down to 0.1 microns.
- With the proper chemical treatment of the wastewater, microfilter use will reduce sludge volume for filter pressing.
- Fully automated, turnkey designs available.
- Standardized designs, with flexibility for customization, in 20, 40, 80 and 100 gpm capacities.
- Dual train designs, allows for a minimum of 50% uptime while the other train is undergoing membrane cleaning.
- HMI & PLC-based control system.
- Adjustable back-pressure valve, allows for adjustment of permeate flow rate.
- Automatic back pulse system to maintain optimal permeate rates.
- Sample valves on each membrane housing's permeate ports maximizes the operator's diagnostic capabilities.
- Supplied with chemical cleaning solution recirculation pump and tanks (typically 2-3).
- Optional, completely automated cleaning cycle available, with chemical make-up systems.



## MF Membrane Features:

1. Duraflow membranes are of a moulded design, unlike others which are rolled from flat sheet into a tube which then has a lengthwise seam, and thus a weak spot.
2. Duraflow membranes are moulded from high purity sintered polyethylene, and have the capability of retaining all initial properties even after immersion into bleach for a one year period. Competitor's membranes typically become brittle after about 30 days of immersion in bleach. Bleach is a very commonly used cleaning agent, so corrosion resistance is very important.
3. Duraflow membranes have tube walls that are 25-30% thicker and thus stronger and more robust, than the competitor's.
4. Duraflow tests 100% of their membranes using an iron solution that is very colloidal. Colloids are large but soft and spongy masses that will pass through most membranes. Duraflow quality testing will reject any membranes that pass any of the colloidal iron through the membrane.

Many manufacturing and metal finishers treat their metal bearing rinse waters through conventional treatment with a gravity plate settler. However conventional treatment can yield inconsistent metal discharge results. Microfiltration process effluent with proper pre-treatment including coagulant additions yields very consistent metal discharge numbers due to the nominal 0.1micron rating that only allows particulate matter less than 0.1 to pass through the microfilter membranes. The net result is a greater ability to meet ever-tightening metal discharge limits.

Furthermore, facilities that utilize this technology as a pre-cursor for water recycle through reverse osmosis.

DURAFLOW 404 MF MEMBRANE



DURAFLOW 415 MF MEMBRANE

