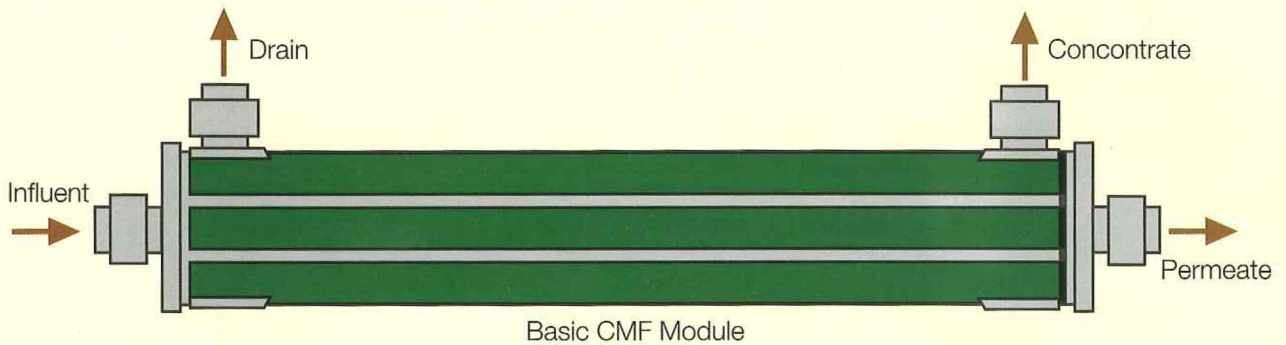


Continuous Membrane Filtration (CMF) - (Water Purification)

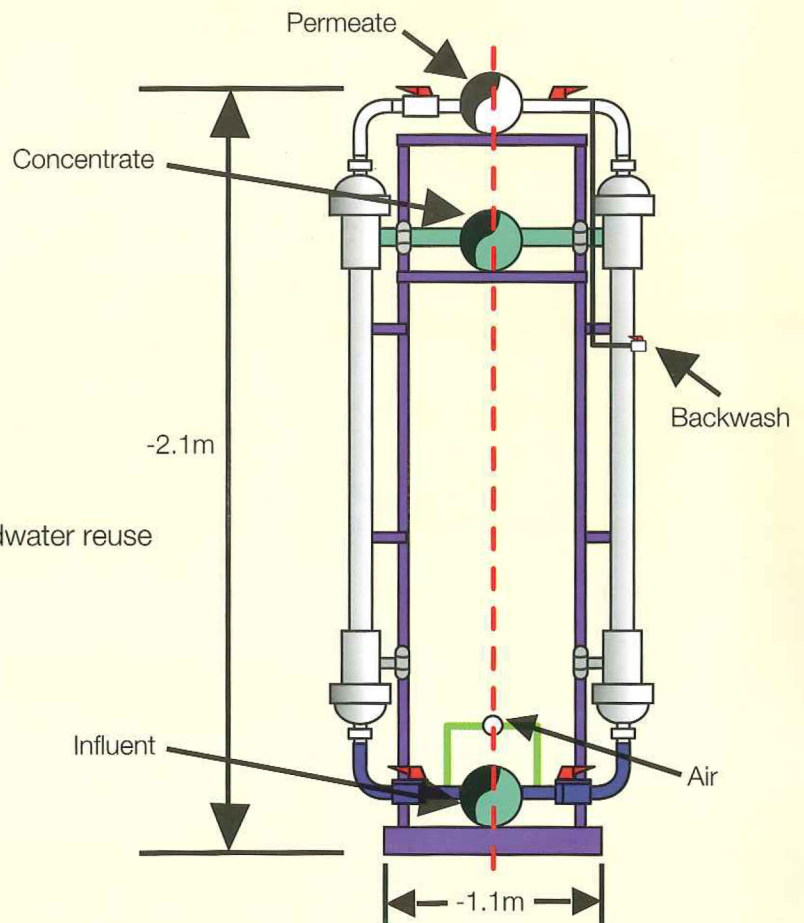
The core of this process is the use of hollow fibre membranes manufactured from PVDF, a highly durable polymeric material that combines strength with high selectivity filter out unwanted materials from feed water. These hollow fibres operate under vacuum condition or pressure to allow feed water to pass into the fibre through microscopic pores. Typically the rejected particles may attach to the fibre surface by a phenomenon known as fouling. The hydrophilic nature of the PVDF fibre membrane minimizes the attraction of solids and pollutants and thus reduces the fouling phenomenon. A key operational challenge of a membrane filtration system is the control of fouling on the membrane surface.

TTP's CMF process utilizes an outside-in mode and low pressure conditions to separate solids from the influent water. Solids-free water (permeate) flows into the fibre lumen while the concentrate is recycled back to the feed tank.



Application Field

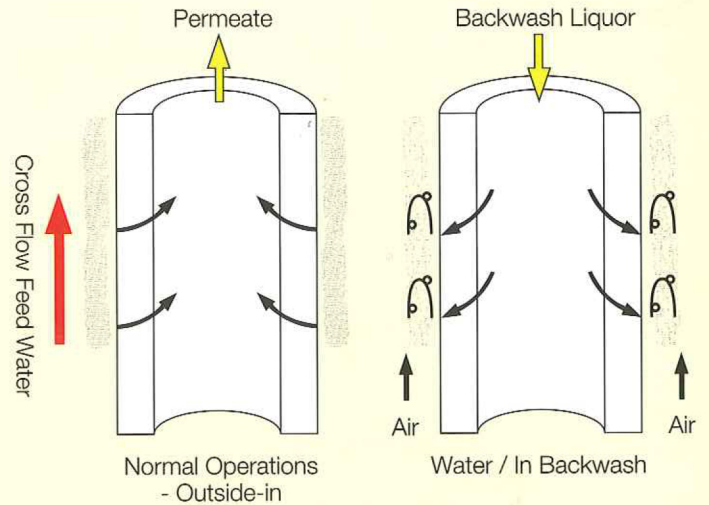
- Production of pure water for industrial usage
- Productions of drinking water
- Control of polluted discharges
- Municipal wastewater, surface water and groundwater reuse
- Treatment of effluent in fermentation process



Small solids and bacteria that become attached to the membrane surface or trapped in the pore matrix are removed through a suite of membrane cleaning processes. Through an automatic sequence of filtration, air scour and backwashing, controlled by a specially designed PLC control unit, a consistently high flux can be achieved.

The result:

“ A HIGH QUALITY SOLIDS FREE EFFLUENT ”



Continuous Membrane Filtration (CMF) Flow Diagram

Benefits and Advantages

- Reliable - Produce water free from bacteria, solids and non-soluble pollutant
- Automatic operation, low labour input
- Compact with small footprint, low environment or impact
- Robust - Fouling pollutants can be easily removed using acid/alkali
- Economic - Effluent can be re-used. Elimination of disinfection requirement
- Flexible - Easily retrofit to existing system, allow for modular expansion

