Membranes Technologies

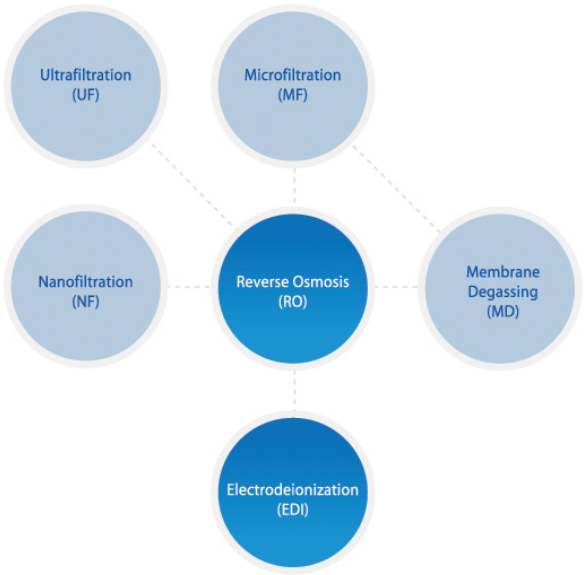
Membrane separation is one of the fastest growing

Processes and has many applications in water and effluent treatment.

Reverse osmosis and electro-dialysis are well established technologies and ,with the addition of ultrafiltration, microfiltration and membrane electrolysis, membrane technologies covers the complete spectrum of contaminant size from suspended particles through colloids and organic macro-molecules to dissolved ionic specifies with the addition of ultrafiltration, microfiltration, and membrane electrolysis.

HASCO Water treatment technologies have a rich experience in all these membrane separation technologies, and we are able to advice which process is the most suitable to solve a specific particular problem.

Available membrane-separation technologies:



Membranes Technologies

Reverse Osmosis

Reverse Osmosis is widely used for the desalination of blackish water, sea water for potable use, and municipal and Industrial area.

Reverse Osmosis is widely used for the following fields;

- Potable water for municipal & Industrial supply
- Process boiler feed and cooling water
- High purity water for special applications in the electronic, semiconductor, pharmaceutical and chemical industries
- Demineralized water
- Recycling of process water
- Municipal and wastewater treatment
- Desalination water treatment

Reverse Osmosis plant

Micro-Filtration

Crossflow microfiltration achieves higher flux rates than traditional membrane filtration techniques do. They can be done by limiting the build up of filtered solids on the membrane surface. It does this by means of a high fluid velocity at right angles to the membrane surface which sweeps away accumulated solids.

Applications

- Oily water
- Removal and recovery of metal hydroxides
- Sterilization of solutions
- Clarification of solutions
- Recovery of valuable suspended or emulsified substances
- Pretreatment for reverse osmosis process

Ultra-Filtration

Ultrafiltration is membrane process used to remove impurities on the basis of molecular size. The separation is achieved by the none - permeable membranes for particles above a certain molecular weight. Dilute solutions can be concentrated by recycling techniques on a batch basis. Compared with reverse osmosi, the trans membrane pressure of the pressure of the process is quite low, typically 1.5-3 bar

Applications

- Recovery of proteins from whey
- Wastewater treatment
- Ultra pure water production
- Pyrogen free water
- Concentration of plating solutions, ell harvesting, etc.