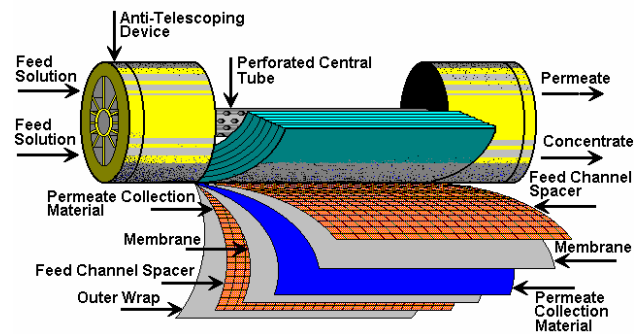


Process Water Applications

Membrane Technology

Early membranes were fabricated from cellulose acetate. Whilst these membranes are still used in the certain applications, modern membranes are fabricated from triacetate, polyamide, poly urea or polysulphone. Each membrane has different properties in terms of surface charge, flux and fouling rates and robustness.



Spiral-wound element: A closer look

Reverse Osmosis



Reverse Osmosis is a technique for separating dissolved solids from solution by means of a semi-permeable membrane, which has the property of allowing water molecules to pass through it, but preventing the passage of salts. The systems operate at a high pressure, typically 20 – 30 bar for the removal of organics to 60 – 80 bar for the removal of salts from sea water.

Proven Applications

- Desalination of Sea Water for Potable Supply**
- Process Boiler Feed and Cooling Water**
- Recycling of Process Water**
- Process Water for the Food and Beverage Industries**
- **High-Purity Water for Pharmaceutical / Microchip Industries**

Ultra Filtration

Ultra filtration is used in a variety of process water and effluent applications, particularly in the food and pharmaceutical industries. The systems operate at low pressure, typically 1.5 – 3.0 bar. A variety of membrane cartridges are available including tubular, hollow fibre and spiral wound.

Proven Applications

- **Production of Ultra pure Water**
- **Recovery of Proteins from whey**
- **Concentration of Plating Solutions**
- **Effluent Treatment**
- **Oily Water Separation**



SPECIALISTS IN THE PROCESS WATER TREATMENT

| Membrane Application by Type | |
|-------------------------------------|--|
| Membrane Type | Application |
| Reverse Osmosis | Desalination of sea water for potable supply Process boiler feed and cooling water High-purity water for pharmaceutical and microelectronic industries Process water for the food and beverage industries Recycling of process water |
| Nanofiltration | Dye colour recovery / concentration Heavy metal recovery Acid Purification Divalent ions removal Pre-treatment for Reverse Osmosis |
| Ultrafiltration | Production of Ultra pure Water Recovery of Proteins from whey Concentration of plating solutions Effluent Treatment Oily Water Separation |
| Microfiltration | Solids removal to 0.1 micron |

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