



2-1. Overview of Reverse Osmosis Membrane Applications

Rapid technological advancement brought about many benefits to our life and also concurrently caused pollution to our environments such as contaminating water sources from industry effluents.

Moreover, natural fresh water source could not meet the ever increasing water demand from our growing population and industries. Additionally, uneven seasonal rain fall makes the water shortage problem worse.

Distillation has been traditionally used to obtain pure water from contaminated water sources. Other processes such as ion exchange and electrodialysis have been employed for water purification since 1950. Recently, RO membrane was applied to the desalination of sea water and brackish water.

RO has been proven to be the most economical technology not only for the desalination of water containing salts, but also for purifying water contaminated with heavy metals, pesticides and other contaminants.

And also RO can be used for recycling waste water and reclaiming useful materials from waste stream such as the recovery of dyes from dye industry effluents. The applications for RO also include food and beverage processing. In addition, advances in the fields of biotechnology and pharmaceuticals, coupled with advances in new membrane development, are making membranes an important separation step, which offers energy savings without leading to thermal degradation of the products.