Advantages

- **Energy savings**. The energy consumption is very low as there is no phase change.

- **Low temperature operation**. Almost all processes proceed at room temperature, thus they can deal with compounds that are not resistant at high temperatures.

- **Recovery**. Both the concentrate and the permeate could be recovered to use.

- **Water reuse**. When applied to recover water, they avoid the transport of large water volumes and permit the reduction of the Chemical Oxygen Demand (COD) loading in sewage plants.

Advantages

- **Compact operation**. Which permits to save space .

- **Easy scale-up**. Because usually they are designed in modules, which can be easily connected.

- **Automatic operation**. The most of the membrane plants are managed by expert systems.

- **Tailored systems**. In many cases, the membranes and systems can be specifically designed according the problem.

Disadvantages

- **High cost**. Membranes (and associated systems) are costly, but for low selective separations.

- **Lack of selectivity**. In many cases, the separation factors are still insufficient.

- **Low fluxes**. The permeat flowrate available are still too low for some applications.

- **Sensitive to chemical attack**. Many materials can be damaged by acids, oxidants or organic solvents.

- **Lack of mechanical resistance**. Many materials do not withstand abrasion, vibrations, high temperatures or pressures.