



Organic Solvent Resistant Hollow Fiber Membrane Modules

Microfiltration and Ultrafiltration Membrane Modules.

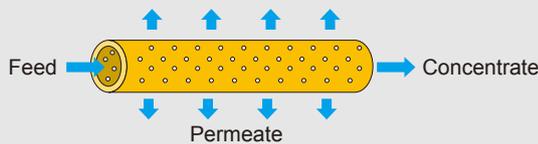
Organic solvent compatible new separation membrane realizes process innovation.

By Unitika's proprietary polymer processing technology, we have developed the liquid separation membranes with polyamide that can be used in organic solvent systems. This feature contributes to energy saving and cost reduction in the processes such as concentration of target substances, removal of impurities and regeneration of waste solvents.

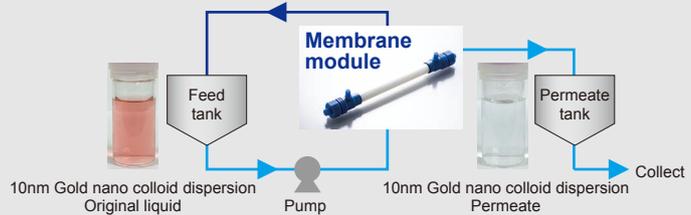
- ▶ **Contributes to energy, resource and cost saving in your manufacturing process by replacing the distillation or centrifugation processes with membrane separation.**
- ▶ **Capable of nanoparticles and dissolved polymers separation from various organic solvents.**
- ▶ **Non-heating process enables the separation of heat-sensitive components.**

Technical data

■ Separation principle of hollow fiber membranes



■ Typical separation process with a hollow fiber membrane module



■ Inside of the membrane module



Ultrafine pores separate nanoparticles and dissolved components from the solvents.

■ Organic solvents usable with the hollow-fiber membrane module*

- Alcohols (Methanol, IPA etc.)
- Hydrocarbons (Hexane, Toluene etc.)
- Ketones (Acetone, Cyclohexanone etc.)
- Esters (Ethyl acetate, PGMEA etc.)
- Ethers (THF, PGME etc.)
- Others (Piridine, NMP, DMAc, DMF, DMSO etc.)

*Please contact us for the solvent compatibility not listed above.

■ Separation membrane lineup

Types	Pore size
MF	Mean pore size 2.5 10 40 100 nm
UF	Mean molecular weight cut off* 30,000 50,000 120,000 Da

*10,000Da and smaller cut off membranes are under development. Please contact us for the detailed information.

(Notice) This product is under development. The information in this document is presented without guarantee and warranty.