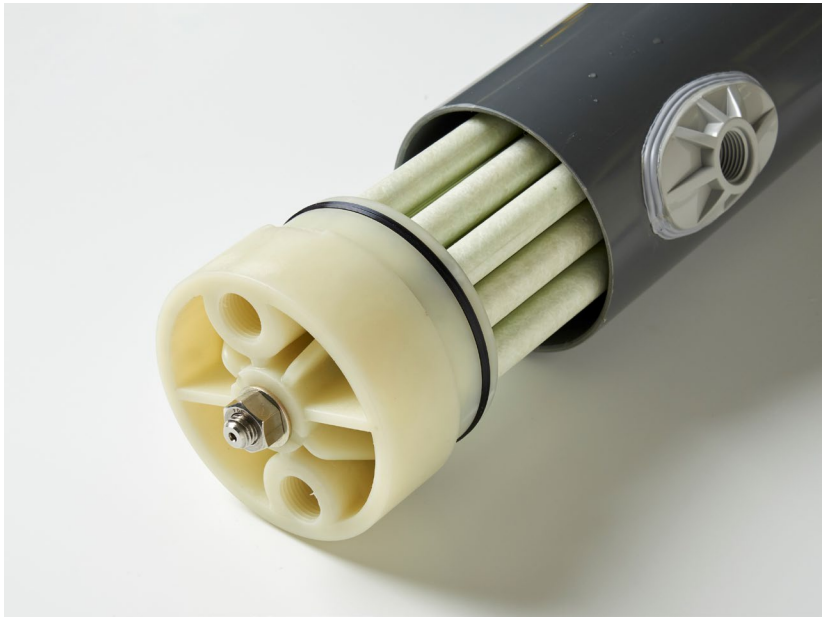
Wastewater treatment solution for industrial/activated sludge effluent; TB-RO(Tubular Reverse Osmosis) membrane



WIPO GREEN Technology Forum2026

Jul 5th 2026

Daicel Corp.

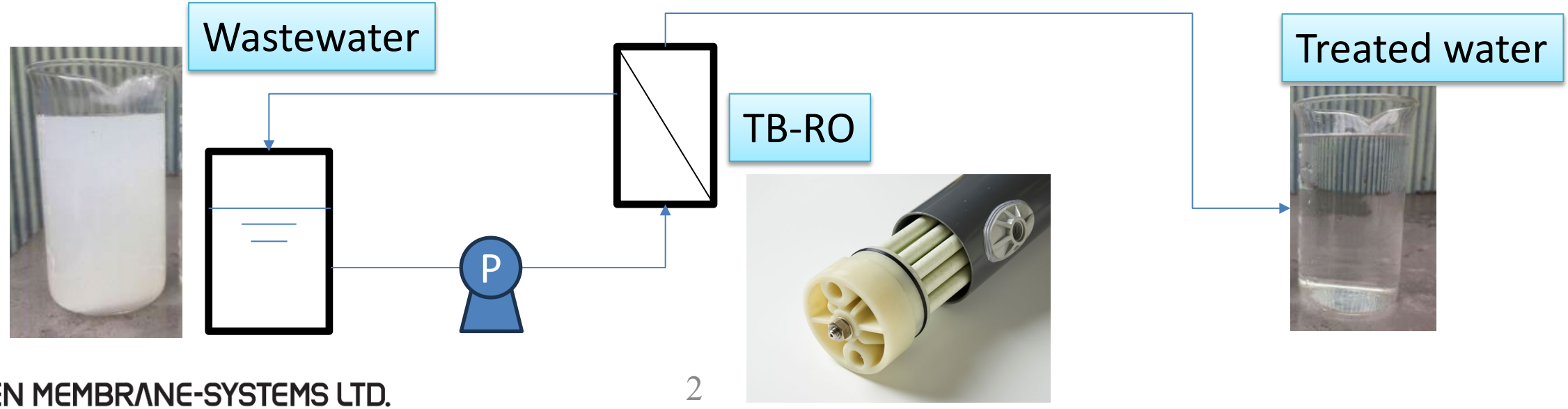
Kiyotaka IMAI

DAICEN MEMBRANE-SYSTEMS LTD.

Copyright © DAICEL CORPORATION All rights reserved.

Concept

- Single-stage treatment for wastewater with high-turbidity/COD wastewater
- Significantly reduces wastewater volume
- Maintains flow rate over the long time with low cost

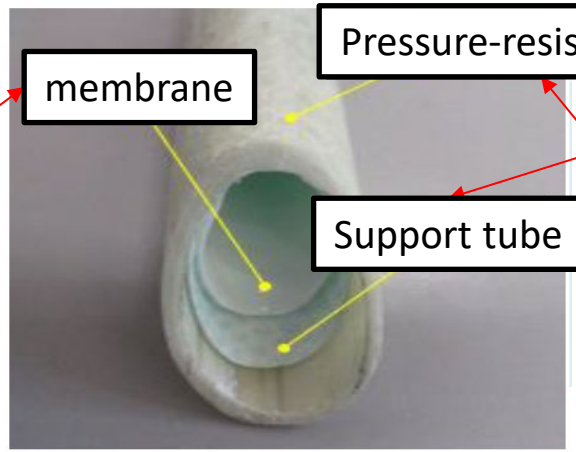


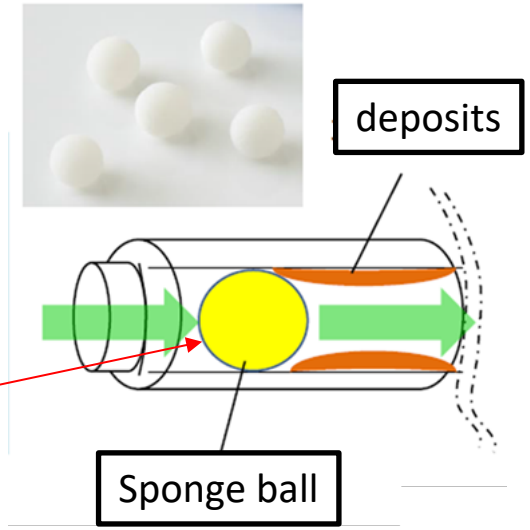
Copyright © DAICEL CORPORATION All rights reserved.

Advantages

Type	Membrane area	Pressure resistance	High viscosity	High concentrated	clreaning
Hollow fiber membrane	Large	Need specific design	Easy to foul	Difficult	Need chemical washing
Spiral membrane	Large	Need pressure vessel	Easy to foul	Difficult	Need chemical washing
TB-RO	Small	High-pressure-resistant W/O vessel	Resistant to foul	Easy	Easy

Inner diameter > 10 mm





Copyright © DAICEL CORPORATION All rights reserved.

Use cases

Used in industrial discharge/active sludge separation

Aluminum Die Casting Release Agents





Water-soluble cutting fluid





Active sludge



Others

Discharge treatment	Process usage
Concentration of oily wastewater	Desalination
Solid-liquid separation of coagulated treated water	Valuable item recovery

DAICEN MEMBRANE-SYSTEMS LTD.

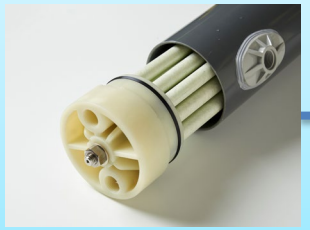
Copyright © DAICEL CORPORATION All rights reserved.

Suspected Value-chain

Collaboration with local contractors/engineering firms

Japan

DAICEN MEMBRANE-SYSTEMS LTD.



Technical support

Module supply

X

Contractors
Engineering firms

- Engineering
- Procurement
- Construction
- Maintenance

Unit Delivery & Maintenance

Clients



Copyright © DAICEL CORPORATION All rights reserved.

Patent List

Granted in Japan, China, India and Vietnam

Patent number (JP)	Title
JP7034897B	Wastewater treatment method
JP7034735B	Filtration treatment apparatus for contaminated water containing resin component and operational method thereof
JP7034697B	Filtration apparatus and method of operating the same
JP7021400B	Tubular separation membrane and tubular separation membrane module comprising same
JP6999255B	Wastewater treatment system and method for operating the same
JP6995924B	Wastewater treatment system and method for operating the same
JP7021285B	Wastewater treatment system and method for operating the same
JP6995923B	Wastewater treatment system and method for operating the same

Copyright © DAICEL CORPORATION All rights reserved.

Contact Information

DAICEN MEMBRANE-SYSTEMS LTD.
Membrane Sales Department

Kenichi Nishizaka
E-mail: kn_nishizaka@daicen.daicel.com
TEL：+81-6-7639-7351

Copyright © DAICEL CORPORATION All rights reserved.