

MEMBRANE WATER TREATMENT

Reverse Osmosis & Ultrafiltration

Lamor designs, builds and operates turnkey membrane water treatment systems, engineered in Finland and delivered worldwide. Our reverse osmosis and ultrafiltration plants turn seawater, river water and wastewater into clean potable and process water.

PROJECT SPOTLIGHT

OIL & GAS · MEXICO

Zero liquid discharge water reuse for Bieeco

Lamor is delivering an advanced treatment plant for Bieeco Bienes Sustentables to recycle oily wastewater of varying salinity. The system combines oil separation, pre-chemical treatment, automatic microfiltration, ceramic ultrafiltration, activated carbon and reverse osmosis across two identical lines for uninterrupted capacity. Concentrate is evaporated on site, so no liquid waste leaves the facility and treated water returns to process and irrigation use.

~90%

water recovery, non-saline streams

~50%

water recovery, saline streams

Zero

liquid waste discharged off site

01 Reverse Osmosis (RO)

Desalination & high-purity production

Reverse osmosis forces water through a semi-permeable membrane under pressure, removing ions, molecules, dissolved solids and all micro-organisms to deliver the highest possible purity, including full seawater-to-freshwater desalination.

- › Removes ions, molecules, dissolved solids & all micro-organisms
- › Seawater to freshwater, with full desalination capability
- › Fully automated, energy-efficient technology
- › Micro prefiltration standard; drum-filter option for oil & grease
- › Skid-mounted or containerized; tailored to existing vessels



CONFIGURATION	Skid-mounted	20 ft Container	40 ft Container
Production capacity	Tailored	65 m³/h	50 or 125 m³/h
Drum filter	Optional	Optional	Incl. or skid option
CIP system	Optional	10 ft container	10 ft container option
Deployment	New-build & retrofit	Deck-ready, parallel	Retrofit, parallel

APPLICATIONS

Aquaculture & delousing

Marine vessels (new-build & retrofit)

Desalination

Process water

02 Ultrafiltration (UF)

Two membrane technologies for every feed quality

Lamor supplies ultrafiltration with two alternative membrane technologies. Polymeric membranes deliver proven, cost-efficient filtration for clean-to-moderate feeds, while ceramic silicon-carbide membranes handle oily, chemically aggressive and hot streams unsuitable for polymeric membranes. Both produce potable and process-grade water.

POLYMERIC UF

PVDF membrane systems

- > Proven, low-CAPEX filtration for clean-to-moderate feeds
- > Effective particle-size reduction down to 0.05 µm
- > Not suited to oily streams; produces backwash water

PARAMETER	FEED	PERMEATE
Max temperature	40 °C	40 °C
Oil & grease	not tolerated	n/a
Particle size	<300 µm	0.05 µm
Turbidity	50 NTU	0.2 NTU
TSS	50 mg/l	2 mg/l

CERAMIC UF

Silicon-carbide systems

HIGH END

- > Tolerates oil, harsh chemicals & high heat
- > Filters oil down to 1-2 ppm; filtration between MF and UF
- > Long membrane lifetime, high flux & low fouling

PARAMETER	FEED	PERMEATE
Max temperature	150 °C	150 °C
Oil & grease	100 ppm	1-2 ppm
Particle size	<300 µm	0.15 µm
Turbidity	200 NTU	0.2 NTU
TSS	100 mg/l	<1 mg/l



Ceramic UF membrane skid
Silicon-carbide housings on a modular Lamor frame

CERAMIC UF REFERENCES

A distinctive proven track record in silicon-carbide membranes

Syklo, Finland · 2026

Turnkey water treatment for Syklo's plastic recycling plant in Hyvinkää, combining chemical precipitation, automatic filtration, ceramic UF, activated carbon and reverse osmosis.

Bieeco, Mexico · 2026

Full-scale oily-wastewater reuse plant combining ceramic UF with reverse osmosis across two identical lines for uninterrupted capacity. Recovers up to ~90% of the water for reuse with zero liquid discharge off site.

APPLICATIONS

Oily produced water

Reinjection quality

Zero liquid discharge

Potable & process water

WHY LAMOR

- Turnkey design, build & operate
- Polymeric & ceramic in one supplier
- Modular, containerized process design
- Handles oil & high salinity
- High automation, easy to operate
- Global service & aftersales

Talk to our water treatment team

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