



WASTEWATER RECLAMATION IN COSMETICS

Spain, 480 m³/d

Aim of the Project

The project consists of treating a MBR (Membrane Bioreactor) permeate stream in order to reclaim the maximum water volume into a cosmetics factory.

Lenntech has engineered and built the water recovery plant fully automated and in compliance with very strict client requirements.

This system allows the reduction of particles and trace of organics using an Ultrafiltration (UF) unit. The water is then polished by a Closed-Circuit Reverse Osmosis (CCRO) that allows to reduce the water conductivity while maximizing the water recovery and minimizing the need of chemical cleaning (CIP).

The system has been designed with redundancy for the UF unit allowing the client to treat more wastewater volumes, increase the membrane lifetime, and have flexibility in operation and in maintenance period.

Scope of Work

- ▶ Engineering, manufacturing and assembly
- ▶ PP and SS piping
- ▶ Outside-in UF modules
- ▶ CCRO recovery up to 88%
- ▶ 2 x 50% UF unit for operation and maintenance
- ▶ Independent CIP unit for UF and CCRO
- ▶ Automatic CIP cleaning sequence for UF and CCRO
- ▶ Advanced control for fully automatic operation
- ▶ Top brand equipment selected according to client's preferences
- ▶ In-line UF and CCRO data normalization and performance monitoring
- ▶ Permeate UV disinfection and in-line TOC monitoring

FEED WATER QUALITY

Conductivity: 1000 µS/cm
COD: up to 200 mg/L
TOC: up to 75 mg/L

PRODUCT WATER QUALITY

Conductivity: <50 µS/cm
Meets drinking water standards.

Key accomplishments

REDUCES
WATER
USAGE

175MIL.

L/per year
OF INTAKE WATER

CONDUCTIVITY

< 50

µS/cm

WASTEWATER
DISCHARGE
REDUCTION UP TO

79%