



## Case Study

# HOD™ UV delivering RO protection at Formosa Plastic Group

### Background

Founded in 1954, Formosa Plastics Group (FPG) focuses on four main product categories: plastic processing, plastic materials, electronic materials, and polyester products. It's the world's largest manufacturer of secondary plastics and a leader in the manufacture of polyester fibers and copper clad.

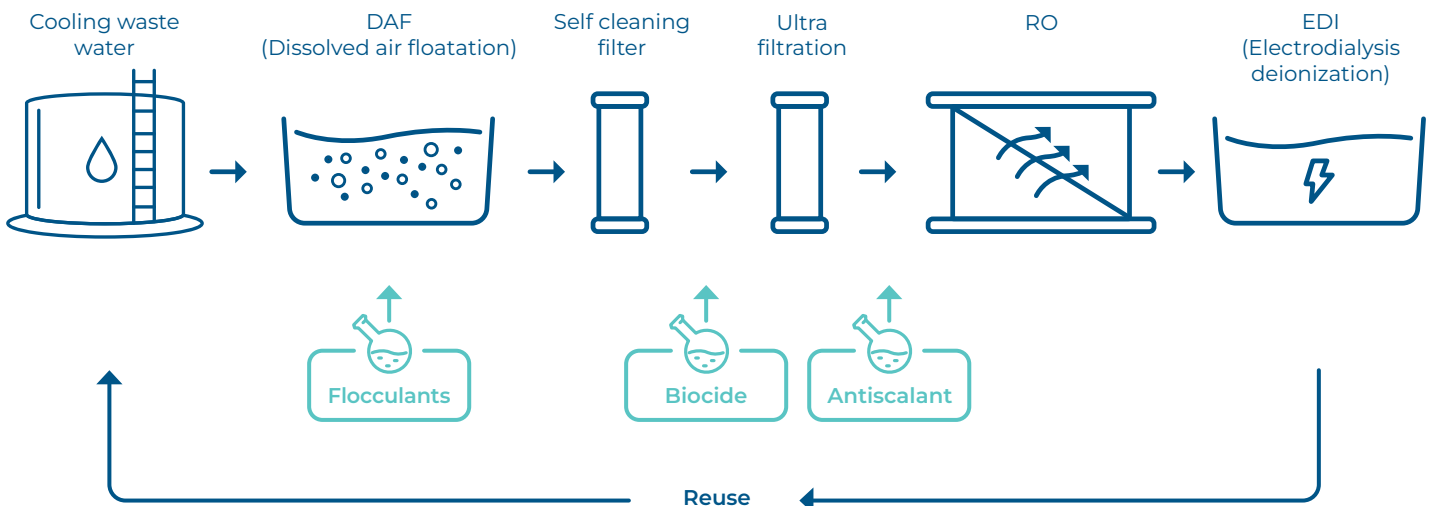
### The Challenge

The plastic industry uses RO membranes to treat cooling tower water. However, membranes are exposed to biofouling — excessive growth of biofilm on the surface of membranes even after chemical pre-treatment. Studies show that 80% of membrane failures are related to biofouling. Formosa Plastics Group's WWTP plant in Mailiao, Taiwan, treats process wastewater from the surrounding plants.

The RO system includes two trains with 25 m<sup>3</sup>/h feed flow each. The RO trains are equipped with three cartridge filters per train to handle feed water from process wastewater, operating around the clock, 365 days a year.

The plant used a significant quantity of chemicals and had to carry out frequent CIP which resulted in shutdowns and inefficiency.

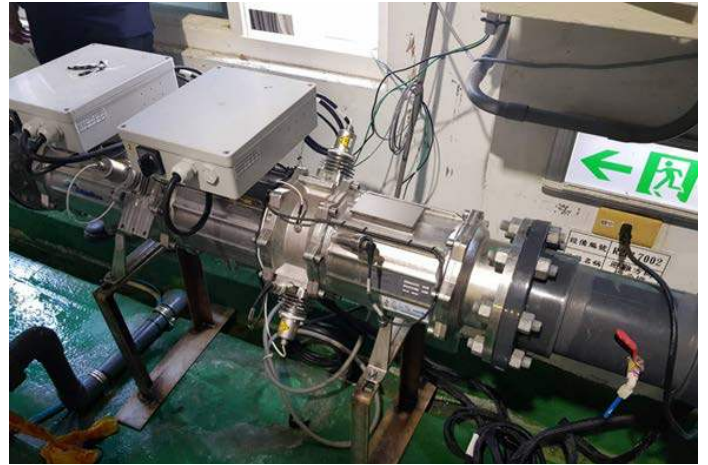
### Process Diagram



## The Solution

Atlantium's HOD™ system was installed after the cartridge filters and before the RO trains.

The HOD™ UV system (Model RZ163-12) was placed in front of the trains.



## Results

Following installation of Atlantium's system, the plant achieved major savings including:



which amounted to approximately

\$20,000 annually

**In a relatively short time** the company achieved return on its investment. In acknowledgement of the benefits of Atlantium's HOD™ UV, the company is about to install more HOD™ UV systems.