



Desalination industry

DAF Pilot Sea Water Plant



Problem Statement

The client experiences Sulphur blooms in different seasons. The Sulphur negatively affects their membrane processes downstream. The client wanted to explore alternative pre-treatment options to try counteract seasonal variations

Solution

Watericon supplied a containerised pilot plant comprising two treatment trains designed to evaluate pre-treatment performance prior to membrane processes.

The first train incorporates a Dissolved Air Flotation (DAF) unit, constructed from polypropylene, with the pipework manufactured from SS2205. This is followed by ultrafiltration (UF) and seawater reverse osmosis (SWRO).

The second train consists of ultrafiltration followed by seawater reverse osmosis, without the DAF pre-treatment step.

The client is able to test the effectiveness of the DAF as pre-treatment by running the two trains in the same operating conditions.



Process

- Train 1 – DAF -> UF -> SWRO
- Train 2 – UF -> SWRO



Result

Client is able to test different pre-treatment options on a pilot level before investing in a big CAPEX outlay. In addition to the pre-treatment trials, the client can do tests on the membrane process by changing the conditions of one of the trains and keeping the other train constant.