

# COOLING TOWER MAKE-UP WATER

*Optimize your cooling tower operations*

## REDUCTION OF WATER SUPPLY NEEDS

UP TO  
**70%**

Reduction on fresh water consumption

## COMPLIANCE WITH ENVIRONMENTAL REGULATIONS

UP TO  
**85%**

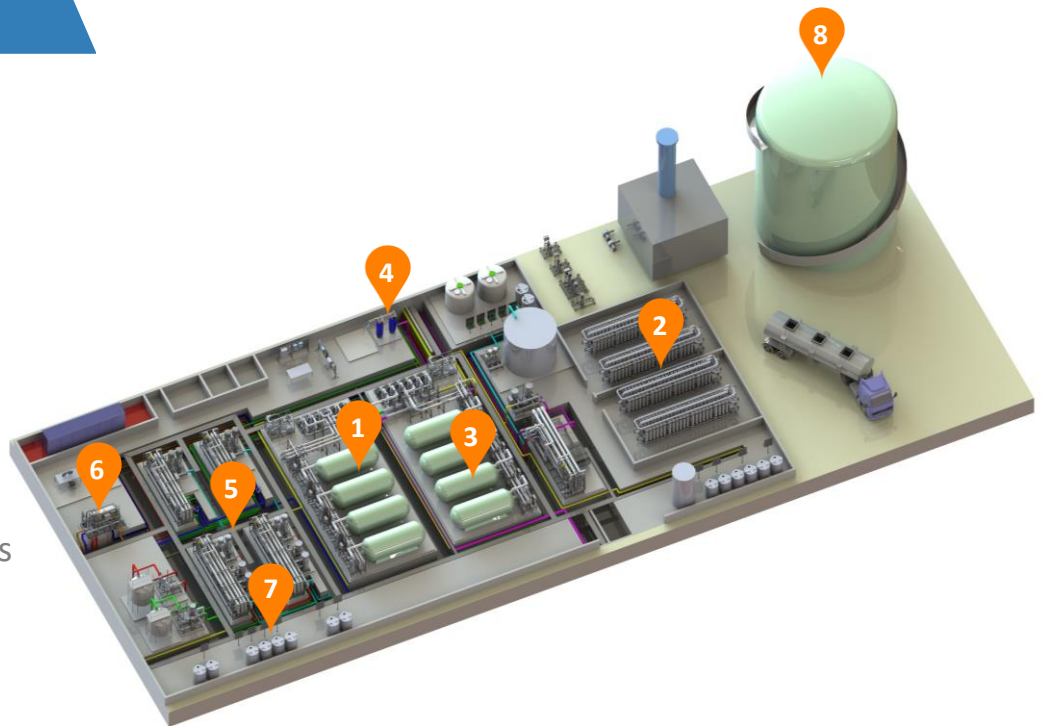
Reduction of blowdown production

## INCREASED RELIABILITY

- **Extended** equipment lifetime
- **Control** of scaling, fouling & corrosion

## Our Solution

- 1 ▶ MMF
- 2 ▶ Ultrafiltration
- 3 ▶ GAC Filtration
- 4 ▶ Ion Exchange
- 5 ▶ Reverse Osmosis
- 6 ▶ Electrodeionization
- 7 ▶ Chemical Dosing Stations
- 8 ▶ Water Storage



## Special features

- ▶ Closed Circuit Reverse Osmosis, allowing up to **96% water recovery**
- ▶ Containerization to minimize the site works and footprint
- ▶ Automatic analytic measurement
- ▶ Product water chemical conditioning



# COOLING TOWER MAKE UP WATER

The Netherlands, 2900 m<sup>3</sup>/d

## Aim of the Project

Purified water availability is of extreme importance for the end-user. Having high purified water as make-up water will allow a **reduction of water consumption by 20%** in the cooling units, and consequently wastewater (blow-down) minimization.

First, the water should be treated by chemical injection in order to fit the CCRO feed recommendations, and also to minimize fouling and scaling in the cooling tower.

Then, two independent CCRO units are needed to **produce 120 m<sup>3</sup>/h of permeate at 93% recovery** and allow to reduce the brine production at the same time. The system is equipped with top-brand equipment to allow full control of chemical uses and CCRO settings.

### ▶ FEED WATER QUALITY

TDS: 900 ppm

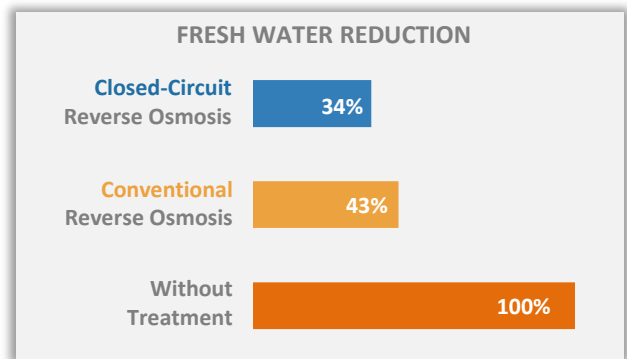
### ▶ PRODUCT WATER QUALITY

< 100 ppm TDS, disinfected & conditioned

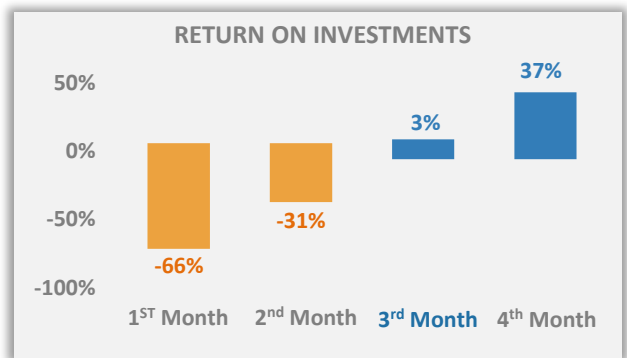
## Scope of Work

- ▶ Engineering, manufacturing and assembly
- ▶ Feed and distribution pumps
- ▶ Closed-Circuit Reverse osmosis unit
- ▶ Chemical treatment
- ▶ Top-brand equipment
- ▶ Siemens PLC
- ▶ Containerization
- ▶ Site commissioning
- ▶ Remote monitoring
- ▶ Service and maintenance

### FRESH WATER SAVING > 2.000.000 M<sup>3</sup>/YEAR



### RETURN ON INVESTMENTS < 3 MONTHS



### RO BRINE REDUCTION > 250.000 M<sup>3</sup>/YEAR

