



**CHUNG – AM**

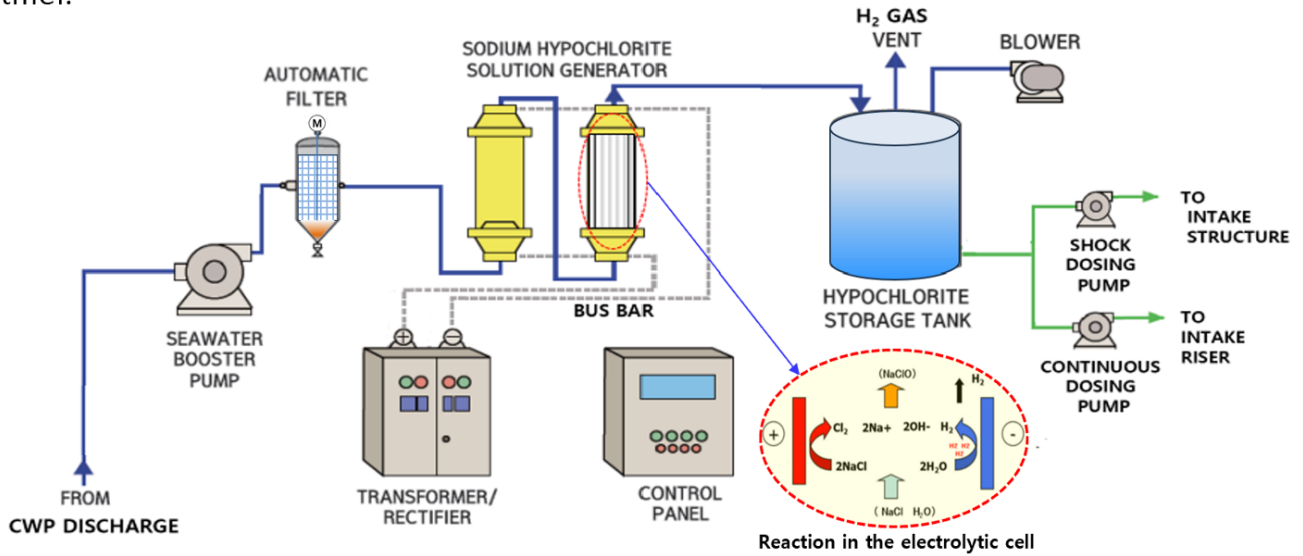
Water Treatment & Engineering CO., LTD.

# **ELECTRO- CHLORINATION PLANT**



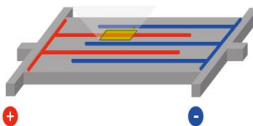
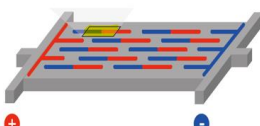
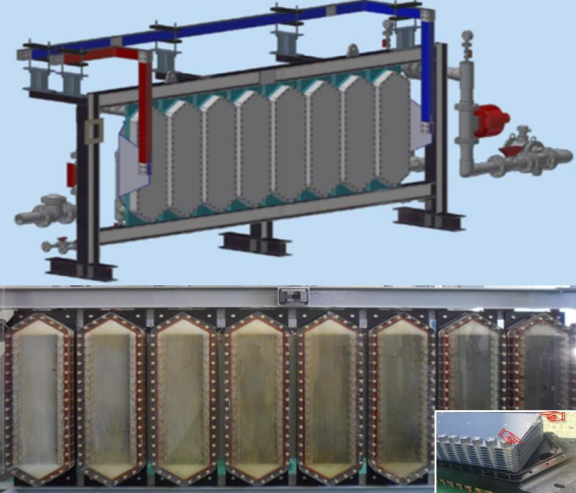
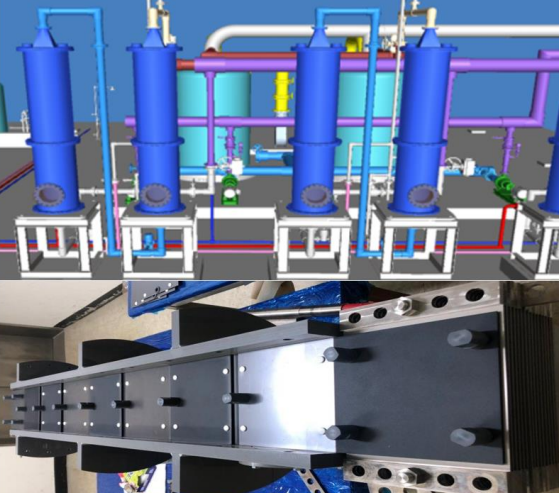
# ELECTRO-CHLORINATION PLANT

The purpose of electro-chlorination plant prevent marine life accumulation by generating sodium hypochlorite through direct seawater electrolysis and injecting it into seawater intakes. When constant seawater flow is delivered through **the electrolytic cells** of the sodium hypochlorite generator, the seawater is electrolyzed by the DC current from the rectifier.



The following reaction occurs to generate sodium hypochlorite from sodium chloride in seawater:

- Anode(+) :  $2Cl^- \rightarrow Cl_2 + 2e^-$
- Cathode(-) :  $2H^+ + 2e^- \rightarrow H_2 \uparrow$
- Overall Reaction :  $Cl_2 + 2NaOH \rightarrow 2NaOCl + H_2 \uparrow$

Electrolytic cell types	<b>Mono-polar type</b> 	<b>Bi-polar type (Vertical)</b> 
Electrolytic cell structure		
Electrolytic cell space	<p style="text-align: center;"><b>Not compact</b> (Required a large skid space)</p>	<p style="text-align: center;"><b>Compact</b> (Minimizing the installation space)</p>
Features	<ul style="list-style-type: none"> <li>• Each cell with single electrode is monopolar.</li> <li>• A cell module be consisted of multiple cells.</li> <li>• Easy electrode replacement and possible anode re-coating.</li> </ul>	<ul style="list-style-type: none"> <li>• Each electrode plate are bipolar(anode, cathode).</li> <li>• Electrode consist of titanium plate.</li> <li>• An electrolyser composed of multi-stage cell element.</li> </ul>

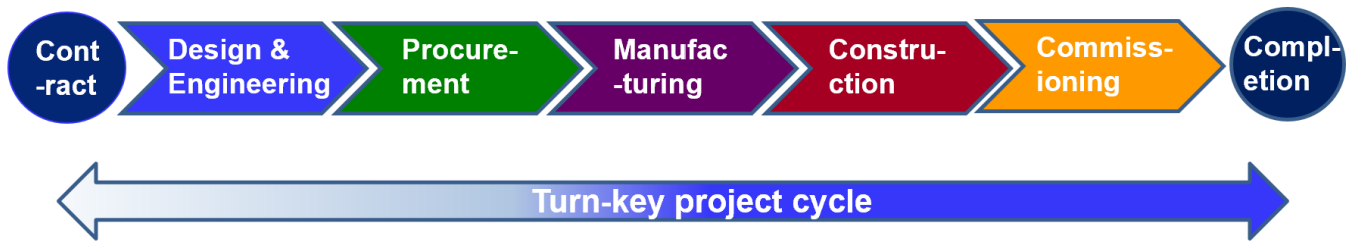
# BUSINESS & SERVICES

## ① Turn-key project

We can carry out turnkey projects that supply everything from engineering & design, procurement, manufacturing, delivery, installation, commissioning, performance testing, and supervision services.

Electrolysers, which are core facilities directly related to the lifetime and efficiency of seawater electro-chlorination plants, have been developed based on the know-how accumulated through long experience.

As a company specializing in total solutions for seawater electro-chlorination plants, we will meet 100% of our customers' needs.



## ② Maintenance and Repair

We have accumulated extensive know-how through long experience with electrolytic cells (as electrolysers), which are the core facilities and collection of electrochemical technologies in seawater electro-chlorination plants. Additionally, these can be manufactured regardless of type and capacity.

For electrolysers or other facilities in existing plants supplied by global suppliers, we can **design, manufacture, maintenance, repair, replace**, and even create **new ones**.

In particular, when the electrode in the electrolysis device reaches the end of its life, the electrode or the electrolyser can be replaced, allowing the system to be restarted.





**CHUNG-AM**

WATER TREATMENT & ENGINEERING CO., LTD

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