Safe, On-site BIOFOULING SOLUTIONS

ELECTROCHLORINATION DIVISION
THE SAFE SOLUTION TO CONTROL MARINE BIOFOULING IN SEAWATER SYSTEMS

ON-SITE SODIUM HYPOCHLORITE GENERATION – ELECTROCHLORINATION

Biofouling is summarized as macro- and micro-marine organisms that attach themselves to any available wetted surface, enhancing corrosion, diminishing heat transfer, and increasing piping losses through flow restriction and turbulence. Therefore, biofouling control is a vitally important component of any application utilizing processed seawater. Proven over decades as the optimum, cost-effective biofouling control solution, on-site generation of sodium hypochlorite manufactured solely from existing site utilities avoids the logistics, hazards, and high lifetime costs associated with alternative control solutions. Our customized sodium hypochlorite-generating solution and dosing systems provide definitive, cost-efficient biofouling control for the benefit of our customers.

The electrochlorination systems designed by H2O are fully automated, requiring minimal operator attention, designed and manufactured to comply with your unique specifications, application, and globally recognized standards. Designed for a variable productive capacity to meet seasonal and operational dosing requirements – at minimum cost – we simultaneously enhance safety by removing any need for handling, transportation, or storage of hazardous chemicals. Biofouling control permits design efficiencies to be maintained, minimizes down time, and avoids fouling-attributable corrosion.

At H2O, we provide effective, environmentally safe biofouling control to a variety of industries through superior equipment that exceeds traditional standards. Our electrochlorination division includes internationally experienced engineers dedicated to providing complete, innovative, and unique installations around the world.

H2O’s Ian Perrett, author of the Electrochlorination Package Engineering Handbook for Seawater and Brine Systems, discusses the H2O EC system and its applications.
The chemical reaction is expressed as follows:
\[ \text{NaCl} + \text{H}_2\text{O} + \text{Electricity} \rightarrow \text{NaOCl} + \text{H}_2 \]

Electrochlorination is the process of producing a non-hazardous chlorine equivalent by the electrolysis of a brine/seawater solution to form a sodium hypochlorite solution. Sodium hypochlorite is an industry-standard oxidizing agent for an extensive list of applications from marine biofouling control to potable water disinfection.

Our scope of supply includes both concentric tube and parallel plate electrolyzer technology to form a range of systems to suit most applications and can be supplied for non-hazardous and hazardous area installation.

**Electrochlorination Applications**

- LNG Facilities
- Municipal Water Treatment
- Offshore and Marine
- Offshore Waterflood
- Petrochemical
- Power Generation

An H2O EC tubular electrolyzer cell being assembled

A completed H2O EC tubular electrolyzer cell awaiting installation
BENEFITS OF WORKING WITH H2O

Factory Acceptance Testing
H2O performs factory acceptance testing on 100% of the units we build before dispatching equipment to the site. This ensures the functionality of the equipment has been tested individually with simulated loads and alarm conditions to exceed industry standards before leaving the facility.

All programming – including the controlling PLC and HMI – is thoroughly debugged and tested before dispatch.

An Experienced, Diverse Team
Our engineers in the Electrochlorination Division of H2O have decades of experience serving offshore and onshore customers.

A Complete Solution
H2O offers a variety of products and services that readily integrate into bundles designed to provide complete, worry-free water treatment solutions. We’re dedicated to offering what you need, when you need it. Our divisions include Watermaker, Wastewater, and Electrochlorination, featuring the Bluecube™, Crapzapper™, Electrochlor TC, and Electrochlor FC lines of products.

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WORLD-WIDE SERVICE NETWORKS