

# ELX Series

## MODULAR HYPOCHLORITE GENERATORS



### What is the ELX Series?

Electrichlor's ELX Series is a modular hypochlorite generator designed for both on-shore and off-shore operation. The ELX series converts salt water (seawater or brine) into Sodium Hypochlorite (NaOCl) by electrifying the salt water as it passes through our patented cell technology. The ELX series makes industrial scale chlorination easy, efficient, and effective. There is a wide range of configurations available to meet all your chlorination needs.

### Productive Capacity

Standard ELX Systems are built to produce NaOCl at a rate between 6 kg/h and 32 kg/h. Custom ELX Systems can be engineered to meet any production capacities.

### Typical Inputs

Salt Water:  $\geq 2.0 \text{ m}^3/\text{h}$

Salinity:  $\geq 20 \text{ ppt}$

Electrical: 4.5 to 6.0 kW/(kg/h) DC



### Our Cell Technology

Our electrolytic cells are proudly manufactured in the United States of America. The cells are where the chemistry takes place. Our nested cylindrical design optimizes performance, durability, and efficiency. Reliable fluid mechanics within the nested cylindrical design facilitate greater and more consistent hypochlorite production; it also reduces scaling. The titanium cell anodes are MMO (mixed metal oxide) coated to increase the durability for up to ten (10) years of use and are protected by a five (5) year warranty. The exterior of the cell comprises the anode and cathode which enable direct, robust electrical connection for a long-term, low maintenance operation.

### Why choose an ELX System?

- **Reliability:** ELX systems are engineered with redundancy and manufactured in the USA with high quality components.
- **Automation:** The entire process from salt water to NaOCl is streamlined and automated, with integrated safety and quality monitoring. Major maintenance is well documented and automated where possible.
- **Modular Design:** Allows for easy access to every part of the system for maintenance, upgrades, and replacements. Also this allows for some models to upscale the productive capacity after installation.
- **Vessel Convenience:** The footprint of the systems are very small; an entire system can fit in the envelope of a typical household washer and dryer. It can also be integrated into pre-existing seawater feed lines and is able to utilize an idling engine's excess energy production. The production rate and concentration can be easily tailored on demand to a vessel's changing needs. The entire process can be monitored and controlled locally or remotely through a PLC. Automated low pH cleaning and reverse polarity options are also available to further reduce the frequency for manual maintenance.

## How an ELX System it works

Production initiates with a salt water solution (seawater or brine). The salt water feed is then introduced to the hypochlorite generator where the solution passes through the patented electrochemical cell in which the electrolysis process takes place. A portion of the salt water solution is turned into a pH dependent equilibrium of hypochlorous acid and sodium hypochlorite (NaOCl). The NaOCl solution is then dosed into the process stream directly or via a holding tank, where the hydrogen gas is expelled prior to dosing. Electrichlor also offers in-line hydrogen degassing using a proprietary, titanium gas separator and gas relief valve assembly.

## Power Requirements

Systems typically require a 420 to 480 VAC 3-phase power source for the rectifier and a 120 VAC 1-phase power source for the main control panel.

## Applications

- **Wastewater Remediation:** ELX Systems can be used to chemically treat water to eliminate unwanted microorganisms in the water and to remove residual ammonia.



- **Eliminating Biofouling:** Electrichlor's systems are perfect for mitigating marine bio growth in pipe-work and heat exchangers, especially within power plants and refineries.



## Certifications

- Our manufacturing and engineering processes are held to the standards of ISO 9001:2015.



- **Fishing Vessels/ Process Sanitation:** ELX systems are used for the sanitization of processing decks and facilities. They also have a small footprint and can be integrated within existing pipework and controls.



- **Industrial/ Municipal/ Commercial/ Agricultural:** ELX systems are perfect for on demand production of NaOCl for use in a variety of applications from sanitization to waste water remediation.

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