



OSEC® B-PLUS HYPOCHLORITE GENERATION SYSTEM

WALLACE & TIERNAN® PROCESS TECHNOLOGY

The OSEC® B-Plus system generates a 0.8 % sodium hypochlorite solution through the electrolysis of brine, consuming only water, salt and electricity. By producing hypochlorite on-site and on-demand, the system eliminates concerns associated with transportation and storage of liquefied chlorine gas or commercial sodium hypochlorite solutions, making it ideal for any application requiring chlorination.

Due to its low concentration, the hypochlorite solution generated by the OSEC B-Plus system minimizes corrosion and degradation (loss of available chlorine during storage) issues typical of high-strength (10 -15 %) sodium hypochlorite solutions. In addition, the system offers lower operating costs than commercial hypochlorite, typically resulting in attractive payback periods.

FULL FEATURE MODULAR SYSTEM

Capacities to 40 kg/h (2,000 lb/day) and above

The OSEC B-Plus system is available at the following equivalent chlorine generation capacities:

Model	Capacity		
OSEC B-Plus 130	2.5 kg/h	60 kg/day	130 lb/day
OSEC B-Plus 260	5.0 kg/h	120 kg/day	260 lb/day
OSEC B-Plus 500	10.0 kg/h	240 kg/day	500 lb/day
OSEC B-Plus 1000	20.0 kg/h	480 kg/day	1000 lb/day
OSEC B-Plus 2000	40.0 kg/h	960 kg/day	2000 lb/day

The OSEC B-Plus electrolyzer is a fully automated, pre-packaged on-site hypochlorite generation system designed for fast and economical installation, safe operation, and easy maintenance. Modules are shipped intact and completely piped, wired and tested.

Key Benefits

- Inherently safe system design and process controls
- Highest process efficiency achieved without sacrificing quality of hypochlorite solution produced
- Robust electrolyzer construction for reliable operation, ease of cleaning and access
- Small system footprint, ease of installation

Compact Modular Design:

The OSEC® B-Plus pedestal is designed to minimize system footprint while maintaining accessibility to all components. Electrolytic cells are standard and sized to meet the rated capacity of the module. Standalone ancillary items, such as brine and hypochlorite tanks, are sized and selected to meet application specific requirements.

Fully Automated Operation:

A PLC-based control system provides fully automatic operation of the entire process and monitors key variables to ensure reliable operation of the system. Safety features such as run inhibit during a descaling process, and tank overflow protection are some of the many inherently safe interlocks built into the process controls. The control panel includes a touch-screen human-machine interface (HMI) to provide user-friendly access to operators.

Robust Electrolyzer Design:

The OSEC B-Plus unique electrolyzer design optimizes salt and power consumption while providing easy access to the cell components for maintenance. A clear cast acrylic casing allows for visual inspection, and the improved end-connection cap design minimizes the potential for leaks. The electrolyzer is arranged horizontally for flow optimization; increasing residence time and heat transfer in each cell pass and minimizing hydrogen bubble size. The result is maximum process efficiency while yielding the highest quality hypochlorite solution.

TECHNICAL DATA

Power consumption:

Approx 4.2 kWh per kg (1.9 kWh per lb) chlorine

Salt consumption:

Approx. 3.0 kg salt per kg (3.0 lb per lb) chlorine

Sodium hypochlorite strength:

0.8 % ± 0.05 equivalent chlorine

Optional equipment:

Gas detector, integral acid cleaning kit, integral heat exchanger

EASE OF INSTALLATION AND MAINTENANCE

Installation Flexibility:

The OSEC B-Plus pedestal is perfect for retrofit applications or installation in existing buildings since most units can pass through a standard doorway. The floor-mounted transformer/rectifier cabinet is typically installed adjacent to the OSEC B-Plus module to minimize the length of interconnecting power cables, however it can be installed in an adjoining room.

Plug-and-Play Convenience:

The electrolyzer system is shipped pre-assembled, pre-wired, and tested to verify hypochlorite production. Once the system is on site the electricity supply, brine solution and process water connections have to be connected to the system. The common outlet pipe for hypochlorite and hydrogen solution is piped to the hypochlorite storage tank. For correct installation and regular maintenance, we recommend our specially trained technicians.

Less Maintenance, Reduced Downtime:

All serviceable components are strategically arranged to facilitate quick access by maintenance personnel. The process water and brine management subassembly is panel mounted on the pedestal. The system is compatible both with flexible hydraulic hose or solid pipework and the electrical cables to the electrolyzer allow for easy connection and adjustments if needed. Piping and electrical connections are provided for the acid-cleaning system (sold separately).



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