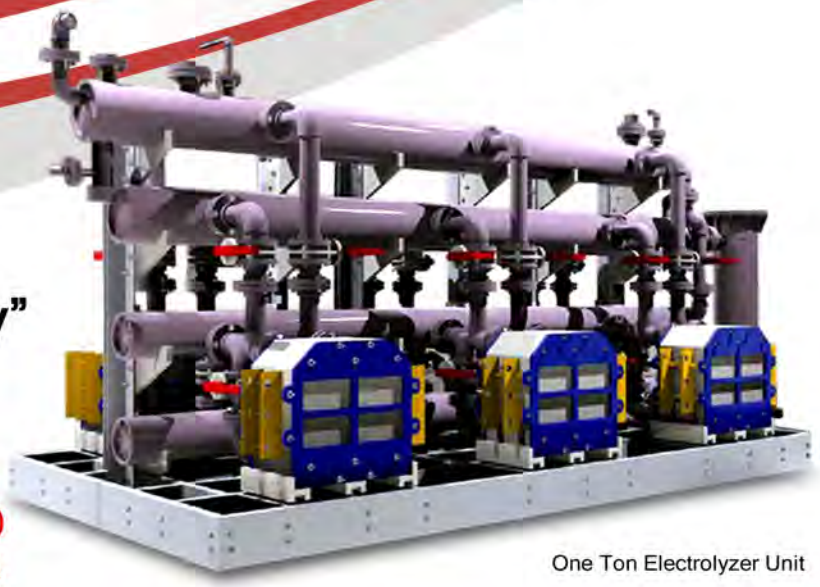
Klorigen™ K-Series

Generate Chlorine Gas and Sodium Hypochlorite On-site and On-demand



One Ton Electrolyzer Unit

"Inherently Safer Technology"

The Klorigen™ K-Series systems safely and economically produce chlorine gas and membrane-grade sodium hydroxide at the point-of-use and NSF/ANSI Std. 60 compliant sodium hypochlorite up to 15% concentration. Production capacities range from 400 lbs to 25 tons per day.

Eliminate the safety concerns pertaining to the storage and use of pressurized chlorine and the high cost, supply and viability issues associated with bulk chemical suppliers. Klorigen employs technology specifically designed for municipal and industrial water treatment applications.

Features & Benefits

- Direct replacement for pressurized chlorine gas
- Allows continued use of current disinfection methods
- Reduces or eliminates RMP requirements
- Generated products are NSF/ANSI Std. 60 compliant
- Cell design eliminates explosive H_2 gas conditions
- Very low maintenance and minimum operator intervention
- Multi-year warranties and maintenance contracts available

Klorigen™ Designated "ATT" (Anti-Terrorism Technology) by DHS on February 16, 2010

Applications

- Potable water treatment
- Wastewater treatment
- Cooling water biocide
- Pulp and paper production
- Mining
- Food processing
- Odor and pH control
- Bleach production

Operating Data (consumption per lb/Cl_2)

- Salt: 1.65 lbs
- Water: 0.95 gallons
- Electric Power: 1.65 DC / 1.75 AC kWh
- Life cycle maintenance costs as low as $0.04/lb

Electrolyzer

- Partioned cells employ ion-selective Nafion® membranes and coated titanium DSA®
- Vertical Design eliminates H_2 gas pockets
- Water and brine are purified onboard to ultra pure levels to optimize performance and eliminate cell maintenance (e.g. acid cleaning)

Electrolytic Technologies Corporation

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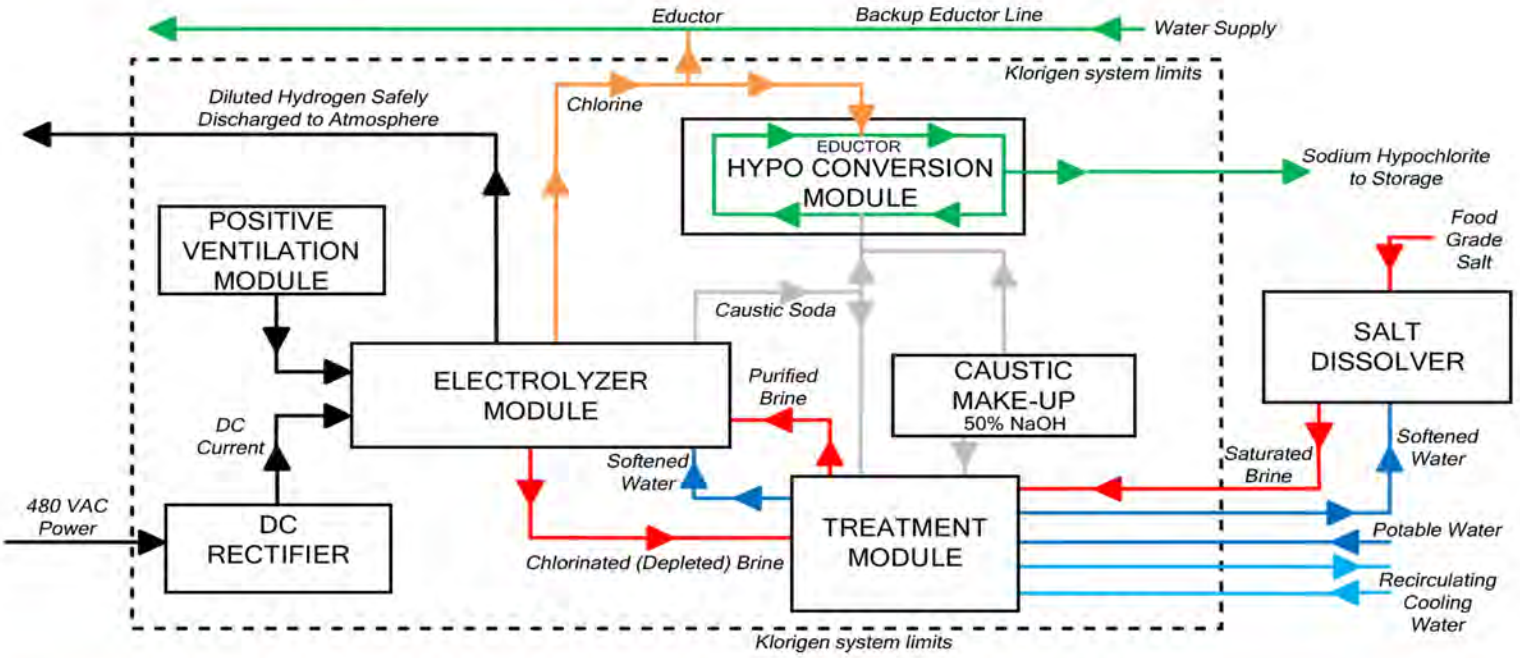
Klorigen™ K-Series Specifications

DAILY PRODUCTION RATES	K2	K4	K6	K8
Chlorine gas (lb) produced at less than 0 PSIG	300 - 600	600 - 1,200	1,200 - 2,000	1,200 - 2,500
Sodium Hydroxide @ 15% (lbs dry basis)	335 - 675	675 - 1,350	1,350 - 2,250	1,350 - 2,800
OR				
Sodium Hypochlorite @ 12.5% trade (gal) (converted from chlorine gas and sodium hydroxide)	300 - 600	600 - 1,200	1,200 - 2,000	1,200 - 2,500

System Flow Diagram

Sodium Hypochlorite Application



Construction

- Modular construction reduces installation time and cost
- Structural assemblies of chemical-resistant non-conducting pultruded GRP and UHMWPE
- 316L stainless steel and titanium fasteners
- All piping and valves are thermoplastic welded

Hydrogen Safety

- Membrane-separated cells isolate electrical potential
- Redundant blowers with airflow safety switches
- Vertical orientation allows natural gas lifting
- Robust electrolyzer construction

Power Supply

- Precision engineered SCR regulated DC rectification to maintain steady state DC output
- Constant current regulated to maintain steady state DC output (within ±1%)
- Chlorine output directly proportional to power input
- Maximum broadband harmonic suppression
- Oil-cooled units are quiet and clean

Features and Options

- PLC capable of interfacing with most SCADA systems for remote control and monitoring
- Brine and product storage tanks and pumps
- Containerized ("monocoque") configurations

Scan with your smart phone for more information on Klorigen™ systems

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