

**RELIABILITY** **QUALITY** **SERVICE**  
**DEPENDABILITY** **COMMITMENT**  
**ECONOMICAL** **SAFE** **HIGHTECH**  
  
**ENCEE CHLOR**

IF YOU DEPEND ON  
**CHLORINE**  
YOU CAN DEPEND ON  
**ENCEE CHLOR**

**ONSITE GENERATION OF CHLORINE**

**SAFEST METHOD OF WATER PURIFICATION**

**NO HAZARDS OF HANDLING CHLORINE GAS**

**IDEAL FOR ALGAE CONTROL IN COOLING TOWERS**

**FULLY AUTOMATIC MODULE**



# ENCEE CHLOR

## ENCEE CHLOR

Is a unique onsite Sodium Hypo Chlorite Generator. An ideal, convenient and economical solution to water disinfection system using chlorination. The generation of Chlorine is instantaneous and provides maximum safety to operating personnel as the generation can be terminated by switching off the power supply to unit.

## WHAT IS ONSITE ELECTRO-CHLORINATION?

It is a simple and proven technology to convert ordinary salt (or sea water) by means of electrolysis into 1st grade Sodium Hypo Chlorite (ELECTRO HYPO). It is always applied onsite, at the point of application. No chemicals other than ordinary salt are used throughout the process. A dilute brine solution (or sea water) is fed to an electrolyser cell. When a low voltage DC current is applied, electrolysis occurs and Sodium Hypo Chlorite (NaOCl) is generated instantaneously.

## CHEMISTRY

The actual reactions are complex, but the key reaction can be represented by the following equation.



## ELECTRO HYPO

Thus generated contains 0.7% to 1% chlorine. Below 1% hypo is classified as a non hazardous chemical although still a very effective disinfectant. The only by product Hydrogen is safely vented into the atmosphere. It is preferred water disinfection / antifouling option... compared to Gaseous Chlorine, Commercial Hypo and Bleaching Powder... considering Safety, Economy, Convenience and Environmental Protection.

It is the ultimate and the most versatile Chlorine based water disinfection option for:

- Cooling Tower Chlorination
- Small and Large Water Treatment Plants
- Rural and Urban water supply schemes
- Effluent & Sewage Treatment Plant

The potential risks associated with the bulk transport, bulk storage and handling of hazardous Chemicals (Gaseous Chlorine, Commercial Hypo and Bleaching Powder) is totally eliminated with onsite chlorination. It is the preferred substitute and the future of Water Chlorination.

### **SALIENT FEATURES**

- Produces Sodium Hypochlorite solution onsite.
- Only common salt, water and power are the raw materials.
- Compact and Easy to operate and maintain.
- Generation is as and when required hence problem of deterioration of chlorine strength while storing is avoided.
- Eliminating the hazards of gas chlorine and decay of purchased hypochlorite makes ELECTRO-CHLORINATOR CONVENIENT.
- Chemical transportation, storage and inventory avoided.
- Low operating cost when compared to bleaching powder, commercial sodium hypochlorite, chloramines and other chemical disinfectants
- Require very low level of skill for operation.

### **APPLICATION OF ELECTRO-CHLORINATOR**

- **Cooling water treatment and algae control**
- **Portable water treatment for drinking purpose**
- **Effluent control including treatment of sewage**
- Decomposition of Cyanide waste in Electroplating and bulk drug plants
- Open well water treatment
- Hospital disinfection, hygiene maintenance and waste management
- Sterilizer for food processing in Hotel and Restaurants
- Meat and poultry processing facilities disinfection
- Public Places disinfection
- Public health water treatment to control micro-organisms, destroy hydrogen-sulphide (odor), control algae growth and keeps transmission pipes clean
- Laundry and bleaching
- Poultry water disinfection
- Dairy equipment sterilization
- Manufacture of oxidized starch
- Bleaching of textiles, paper shellac, carpets, alginates

## OPERATING COST COMPARISON

Disinfection system	Equivalent	Cost / Kg, lit	Cost - Rs.
Chlorine Gas (Baby Cylinders)	1 Kg	40	40
Bleaching Powder (20% chlorine content average)	5 Kg	15	75
Purchased hypochlorite (50 gpl concentration)	20 lit	15	300
ENCEE CHLOR Hypochlorite (10 gpl concentration)	100 lit	0.20 (salt + power cost)	20

## COMPARATIVE ADVANTAGES OF ELECTRO-CHLORINATOR

Disinfection system	Source of Raw Material	Handling of Product	Shelf-Life of Product	Operation & Maintenance	Cost of Consumable
<b>ENCEE CHLOR</b>	Only Edible Salt	No transportation and storage, easy handling. No loss of chlorine.	Produced and dosed onsite, No storage required.	Very Easy	Very Economical
<b>Chlorine Gas</b>	Dependent on supplier and uneconomical for transport	Transportation and handling is hazardous	Stable	Difficult	Most Economical
<b>Bleaching Powder</b>	Dependent on Supplier	Handling and storage is inconvenient and Messy	Highly unstable and Rapidly loses Chlorine on Storage	Inconvenient, Difficult, Messy	Expensive
<b>Commercial Sodium Hypochlorite</b>	Dependent on supplier and Uneconomical for Transportation	Handling and Storage is inconvenient	Unstable and loses chlorine on Storage	Fairly Easy	Most Expensive

## ENCEE CHLOR MODELS

ENCEE CHLOR disinfection units are available in following models. The capacity of water treatment is considered at 2 mg/L (ppm) chlorine dosage at the point of injection.

<i>S.NO.</i>	<i>CAPACITY CHLORINE OUTPUT</i>		<i>WATER TREATMENT CAPACITY @ 2PPM</i>	
	<i>Gms. / Hr.</i>	<i>Kgs. / day</i>	<i>M<sup>3</sup>/Day</i>	<i>Lac Ltr/Day</i>
<i>NC 15</i>	15	0.36	180	1.8
<i>NC 25</i>	25	0.6	300	3.0
<i>NC 50</i>	50	1.2	600	6.0
<i>NC 100</i>	100	2.0	1000	10.0
<i>NC 400</i>	175	4.0	2000	20.0
<i>NC 600</i>	250	6.0	3000	30.0
<i>NC 800</i>	350	8.0	4000	40.0
<i>NC 1200</i>	500	12.0	6000	60.0
<i>NC 24K</i>	1000	24.0	1200	120.0
<i>NC 36K</i>	1500	36.0	1800	180.0
<i>NC 48K</i>	2000	48.0	2400	240.0

*We can also design tailor-made models for specific purposes as per requirement.*

**NC 1200 Installation at H.A.L. Bangalore, India**

