



Chlor-Alkali

PRODUCTION PLANTS

Engineering at service
of sustainability



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KERN SD

develops on-site chlor alkali production facilities tailored to meet the technical and economical needs of customers.

KERN SD plants are fully customizable in terms of production and concentration.

- KERN SD has an innovative **technology for the production of chlor-alkali**“in situ” consisting of the electrolysis of sodium chloride or potassium chloride brine to produce chlorine, sodium hydroxide, potassium hydroxide and hydrogen, using a **bipolar membrane electrolyzer** (no mercury) and/or **diaphragm** (no asbestos).
- Plants designed and developed by KERN SD use safe, environmentally friendly and highly competitive technology due to their low investment and low operating costs (high electrical efficiency and degree of automation).
- Plants are delivered pre-assembled on modular “skids” and depending on the production the plants are assembled in containers (containerized plants).
- KERN SD technology complies with the **EU Best Available Technologies (BAT) Directives for the production of chlor-alkali (Directive 2010/75/EU)**.

TECHNICAL SPECIFICATIONS OF THE PRODUCT (Cl ₂)	
Appearance	Greenish gas
Melting point	-101 °C
Boiling point	-34° C
Density	2,5 g/cm ³
Molar Mass	71 gr/mol
Water solubility	8,62 gr/l



Chlor-Alkali Production Plants

PLANT FEATURES

Output	From 0,5 t/day to 35 t/day
Flexibility	50-100%
Concentration	100%
Raw materials	Salt or Potassium Chloride, Water and Electricity
Materials	Built with high quality materials
Monitoring	Fully automated and monitored plants

- ON-SITE PRODUCTION
- CONTAINERIZED OR FIXED PLANTS
- MODULAR AND SCALABLE
- AUTOMATIC CONTROL
- SAFE OPERATION
- ECONOMIC SAVINGS (low operating and maintenance costs)
- HIGH ENERGY EFFICIENCY
- SIGNIFICANT REDUCTION of associated storage, handling and road transport risks
- HIGH PURITY PRODUCT
- NO ENVIRONMENTAL IMPACT

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According to the World Health Organization (WHO), “chlorine disinfection is the best guarantee of microbiologically safe water”, the best option for water treatment and purification. Chlorine is highly effective in combating all types of microbes that may be contained in water, including bacteria, viruses, fungi and yeasts, and the algae and slime that proliferate inside pipes and in tanks.

SOME APPLICATIONS

OF CHLORINE

- Water treatment
- Vinyl manufacturing
- Manufacture of chlorofluorinated products
- Preparation of metal chlorides
- Synthesis of hydrochloric acid
- Sodium and calcium hypochlorite production
- Manufacture of silicon tetrachloride
- Manufacture of oxychlorides and trichlorides
- Bleaching in the paper and textile industry
- Production of cooling fluids
- Food disinfection
- Manufacturing of cleaning products
- Processing of herbicides and insecticides
- Synthetic glycerin processing
- Chloroparaffin processing