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## 18,000 TPY Caustic Soda Plant

\* Ion Exchange Membrane Bi-Polar Electrolyzer Unit manufactured/supplied by ThyssenKrupp Uhde Chlorine Engineers (Japan) Ltd.

\* Current Status: The unit is brand new and unused and is lying in storage in its original packing in wooden crates.

\* Spare parts include 3 pieces bipolar element; 1 piece end anode element; 1 piece end cathode element; 5 pieces ion exchange membrane; 5 pieces anode gasket; 5 pieces cathode gasket; 6 pieces feed tube; 6 pieces overflow tube.

\* Engineering documents, drawings and manuals are available.

\* Brief Process Description:

Super-purified brine is fed to Electrolyzer where it dissociates into chlorine and sodium ions. Water is dissociated into hydrogen and hydroxyl ions. Sodium ions react with hydroxyl ions to produce 32% Sodium Hydroxide. Other products are Hydrogen and Chlorine gas. Hydrogen and Chlorine gas produced during the electrolysis of brine solution can be fed to synthesis furnace where hydrogen chlorine gas is produced and absorbed in demin water in falling film absorber to produce 33% HCl (hydrochloric acid).

\* Output product: The Electrolyzer is capable of producing 52.8 TPD of 100% caustic soda in the form of 32% solution i.e. the output will be 165 TPD of 32% caustic soda solution.

\* Other Related Units

- Transformer Rectifier Package – manufactured/supplied by Neeltran Inc., USA  
21000 ADC x 290 VDC 12 Pulses Power Supply System and other associated equipment, materials, drawings & manuals plus spare parts comprising 1 set of gaskets for Transformer and for Rectifier 1 set of protection relays; 5 SCRs (Thyristor); 5 SCR fuses; 2 control amplifier BD; 5 gate driver board, 1 lamp bulb (box of 10); 2 control relay; 1 control fuse (kit); 1 PC boards used in unit.

- HCl Synthesis Unit – manufactured/supplied by SGL Carbon GmbH, Germany  
Type 660 – 42 Tons/day (100% HCl) as 36% Wt. Hydrochloric Acid and other associated equipment, materials drawings & manuals plus spare parts comprising of 2 pieces inner burner tubes; 1 piece outer burner tube; 3 pieces rupture disc in DIABON; 1 piece sight glass; 1 set gaskets complete; 1 piece infrared photocell; 1 piece quartz rod for flame guard; 2 set electrode for pilot burner.