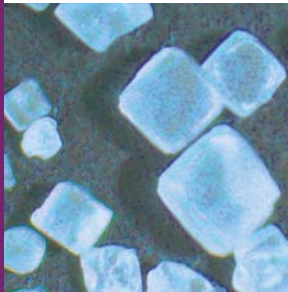


Innovative Process Solutions

HPD is a global leader for innovative process solutions which use evaporation and crystallization as core technologies.

More than 650 systems in over 30 countries have been designed or installed by HPD, including the world's largest MVR evaporated salt crystallizer, the largest multiple-effect evaporated salt crystallizer and the largest kraft pulp black liquor evaporation system.

HPD, through offices in Plainfield, IL, Bilbao, Spain and agents in over twenty-one countries, has delivered custom-engineered solutions to the Primary Metals, Chemical Processing, Pulp and Paper, Power Generation, Salt, Fertilizer, Chlor-Alkali, Biofuels, Oil & Gas, Soda Ash and Specialty Chemical industries for over thirty-five years.



Evaporation & Crystallization Systems

Purity and Consistency in the Chlor-Alkali Industry

Chlor-alkali products affect businesses and industries around the world, impacting the manufacture of products from PVC and vinyl plastics to inorganic chemicals to pulp and paper.

In this dynamic industry, evaporation and crystallization systems are critical to the chlorine and caustic production process. At over 650 installations worldwide, HPD evaporators and crystallizers provide chemical processing solutions.

Our systems offer value in the electrolytic production brine circuit and product caustic concentration.



Membrane cell caustic concentration system

By controlling brine quality and plant water balance within the chlor-alkali facility, our systems provide brine to the electrolyzer cells which meets stringent requirements for brine purity. When coupled with brine softening, filtration, ion exchange and dechlorination systems, HPD has the experience and capabilities to provide the complete brine circuit from well to electrolyzer feed.

In associated chlor-alkali markets such as soda ash and sodium chlorate production, HPD crystallization systems meet strict product purity and size requirements for a wide range of processes.

From our extensive laboratory and pilot capabilities to our strong industry experience, we have the knowledge and technical expertise to address your chlor-alkali production needs.

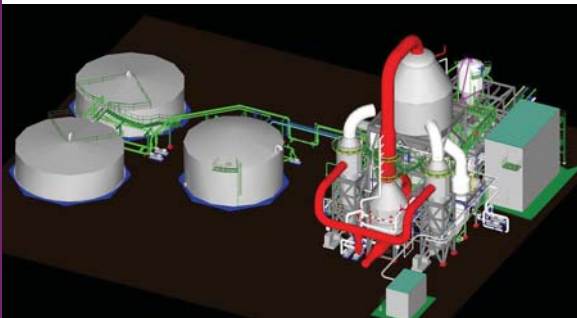


Solutions & Technologies

Systems Play Key Role In Chlor-Alkali Production Process Efficiency

At a Southeastern U.S. chlor-alkali production facility, an HPD crystallization system plays a key role in the production of chlorine and sodium hydroxide. As part of a capacity expansion and a continuing relationship with the manufacturer, HPD designed, supplied and installed a membrane caustic cell concentration system and sulfate purge system.

The caustic system provides low operation costs, high steam economy and energy efficiency. The sulfate purge system removes sulfate impurities and reduces product costs by recycling brine.



3-D Rendering of a high-purity NaCl crystallizer for chlorine production

Proven Processes Through Expansion

HPD crystallization systems have been proven to be a stable and consistent operation at a Midwestern U.S. plastics manufacturing facility. HPD has provided technical expertise and process equipment for three consecutive diaphragm cell caustic evaporation system capacity expansions. Since 1994, the systems have allowed the manufacturer to achieve production targets, while earning a reputation for stable, robust operation.

Total Project Capabilities Turnkey Project Management

HPD's turnkey project capabilities and dedicated teams assist customers by providing the necessary expertise to fully execute the project from evaluation to startup. One point of responsibility is assigned throughout the entire installation. This assures that all phases of the project can be efficiently managed without redundancy and allows customers to focus on their core business.

One point of responsibility also ensures effective communication to and from the site to address any issues before they affect important milestones.

HPD's wide scope of supply supports the entire project including detailed engineering, specification of process and utility piping, mechanical erection of structural and access steel, installation of all major and ancillary equipment and assistance in startup with thorough operator training.

A complete engineering staff, ranging from civil and structural to electrical and mechanical engineers, ensure that details from the foundation to the control systems are properly designed and installed.



USA

23562 W. Main Street, IL Route 126
Plainfield, IL 60544
Tel.: 815-609-2000
Fax: 815-609-2044

SPAIN

Avenida de Neguri, 9 - 1°
48992 Getxo
Tel.: +34 94 491 40 92
Fax: +34 41 491 11 40

www.hpdsystems.com
HPD.info@veoliawater.com

