

Sulfuric Acid

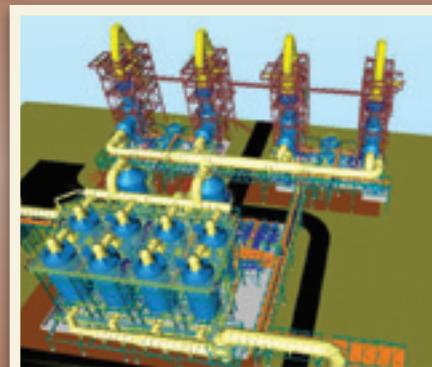
T O D A Y

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Fall/Winter 2015



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Clark Solutions: reflecting on over 20 years in the industry

Clark Solutions was founded in 1991 in São Paulo, Brazil after company founder, Nelson Clark, began working as an engineer for Monsanto Enviro-Chem Brazil. Today, the company is still headquartered in São Paulo, with two manufacturing shops in Barueri and research facilities in Barueri and Guaianazes.

Clark Solutions specializes in manufacturing thermal and mechanical separation equipment, such as mechanical separators, gas-liquid separators, tower packing and internals and both liquid and gas distributors. For the sulfuric acid industry in particular, the company focus is mist elimination in the drying and absorbing towers and mass transfer in the cooling, drying and absorbing towers. Clark Solutions is also one of the top suppliers of compact three-phase separators for the oil and gas industries, particularly for offshore platforms, where compact size and sturdy designs are critical features and selection criteria.

The company's history with sulfuric acid began in 1988 when Nelson Clark was hired by Monsanto in Brazil as a co-op student while studying chemical engineering at Escola Politécnica da Universidade de São Paulo. Shortly thereafter, Clark was hired as an engineer at Monsanto's Enviro-Chem Division. Early in 1991, Monsanto offered Clark's new company the opportunity to represent Monsanto's products in Brazil and a few more countries. Later that year, Monsanto also introduced Clark Solutions to Otto H. York Company, who Clark also started representing.

In 1995, the company built its first mist eliminator manufacturing facility in Barueri

São Paulo. Among other products produced at the facility was the complete wire mesh product line licensed from Otto H. York. Since that time, the company has sold many thousands of mist elimination devices that it has manufactured using its own or licensed technology. Later, Clark added mass transfer products to its lines, particularly tower packing and liquid distributors.

Clark Solutions has always been a family company whose sole focus is providing the best products and services to the market. Customers and employees always come before profits, as it is the people who will grant a long life in business.

In 2003, the company started a joint venture with Koch Otto-York to manufacture mist elimination and gas-liquid separation devices. In 2015, the two companies found their objectives were diverging and amicably dissolved the venture.

Clark Solutions is one of the largest mist eliminator manufacturers in the southern hemisphere with a team of qualified engineers and a state-of-the-art research laboratory. The research lab includes two 6-inch diameter and one 16-inch diameter pilot tower for mist elimination and tower packing characterization, and an eight-meter diameter setup to develop and test liquid distributors. The company also works with the São Paulo University Chemical Engineering Department on a variety of programs including cross training of students, continuous education programs for Clark's engineering team and support of students on mechanical separations research. These activities allow Clark Solutions to produce and develop state-of-the-art products including

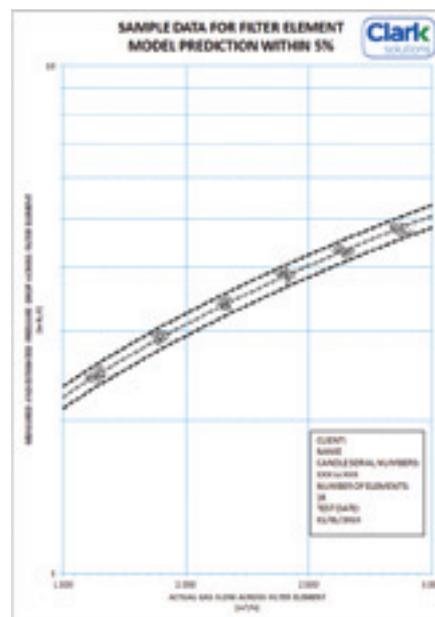


Fig. 1: Dry pressure drop plot for 18 candles.

a line of candles, which the company has been refining for decades.

Today, every aspect of candle manufacture is fully computer controlled. Every candle has a serial number, is pressure drop tested and its metallic materials go through PMI testing, along with several other performance tests developed at Clark. Each single candle is dry pressure drop tested—to up to 6,000 m³/hr air flow—during manufacturing and later when finished. Pressure drop data, including pressure drop for each candle individually as well as the complete set of candles supplied to a job is used to verify integrity and correlate performance. Fig. 1 shows the results of multiple candle testing for a specific job.

Also, upon request, the candles can be thermally scanned to further verify the bed



Nelson Clark, president and CEO of Clark Solutions, recently chose New Orleans to celebrate his 50th wedding anniversary where he enjoyed the city's wonderful food, music and culture.

homogeneity. The lab in Barueri counts with cascade impactors that can measure and verify candle performance. This service is also available for on-site evaluation of candle performance.

Computers enable winding in parallel or angled patterns, to vary the density and the tension of the fiber at any moment and stop the winding when reaching precise targets. It is a very sophisticated system that enables candle design for very narrow pressure drop windows or precisely defined efficiencies. Clark Solutions' products have a very long record of success and performance. Candle installations have been in continuous service in metallurgical gas plants for more than 15 years. Recently, even in a situation of a superheater failure, the company's interpass tower supplied candles were capable of collecting huge amounts of mist generated without compromising the cold side of the cold IP heat exchangers.

Through the years, the company has focused almost exclusively in Brazil. Recently, however, Clark has decided to expand its scope and offer products, starting with mist eliminator solutions, to other countries and markets.

To support its growth, the company is now building a new manufacturing shop in Embu das Artes, a small city located 20 kilometers from São Paulo. This plant will also integrate Clark's multiple research facilities. Other recent initiatives include targeting sulfuric acid applications in countries outside of Brazil focusing on Latin America, Africa and the Middle East. The company also plans to open branches in South America, likely Chile or Peru, as well as the United States, by the end of 2016.

For more information, visit www.clarksolutions.com.br. □

COMPANY NEWS

Corrosion Technology Systems, Inc. receives agent of the year award

PITTSBURGH, PA—Corrosion Technology Systems (CTS) has represented Sauereisen corrosion-resistant materials in New Jersey, Delaware, Maryland, Eastern Pennsylvania, New York and Connecticut since 1992, and recently won Sauereisen's Agent of the Year award. Their activities in market development and technical product service continue to provide growth opportunities for Sauereisen.

This award is presented annually to the sales agency that best meets sales objectives through specification development and expansion of new business opportunities in a defined marketplace.



Corrosion Technology Systems recently received Sauereisen's 2014 Agent of the Year Award. Pictured are, from left, Sauereisen President J. Eric Sauereisen, Kevin Grega and Jon Lattin of CTS and Sauereisen Eastern Regional Manager Tony Oswald, Jr.

Corrosion Technology Systems' efforts in the past year have exceeded expect-

tations. They have continued to expand sales to the wastewater industry with the promotion of Sauereisen's SewerGard Systems.

Sauereisen is one of the world's leading manufacturers of specialty cements and corrosion-resistant materials. The company has a network of technical sales representatives in major cities throughout the world. With manufacturing and warehouse facilities in the United States, Europe and the Pacific Rim, Sauereisen provides global product distribution.

For more information, please visit www.sauereisen.com. □



Thermal and Mechanical Separation Solutions

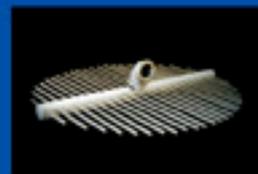
Clark Solutions
more than equipment,
solutions

Solutions for Your Plant

Mist Eliminators: MaxiMesh® and FiberBed®

Tower Internals: MaxiSaddle® and MaxiDome®

Acid Distributors: Through & Downcomers and Pipe Distributors



Did not attend the Brazilian Sulfuric Acid Conference - "COBRAS"? Watch the presentations on our website: clarksolutions.com.br or access the QR Code

