

# *The Clayton Advantage Installed A Case Study: Jost Chemical*

***For twenty-five years, Jost relies on the quality and reliability of Clayton Steam Generators.***

Jost Chemical Co. manufactures a broad range of high purity specialty chemicals for the pharmaceutical, nutritional, food, reagent, and other specialty markets. In the fall of 1985, Jerry Jost bought two 33 BHP Clayton Steam Generators and began production at the company's first manufacturing plant. By 1994, Jost Chemical outgrew the original facility and built a new 40,000 square foot plant in St. Louis County. Jost installed a 60 BHP Clayton for the new plant. In 1997, the plant expanded and added a 150 BHP and a 200 BHP Clayton Steam Generator was added a few years later. In 2004, an adjoining new 100,000 sq. ft. manufacturing plant was completed, and they installed a 300 BHP Clayton Steam Generator.

To support the continued sales growth Jost Chemical's expansion required steam plant equipment that could handle varying steam loads. Much of the production runs in batch loads at 125 psig steam. Production runs 24/7. Downtime is costly. Equipment reliability is essential. As the company expanded, space was always considered a costly premium. Energy costs in the form of natural gas had increased and efficiency was a major concern.

Jerry Jost had considerable experience with Clayton Steam Generators. As he considered his choices for steam plant equipment, he compared Clayton to conventional steam boilers. Clayton's advantages matched his needs.

To ensure good quality products, Jost's process has varying steaming rates. Conventional boilers need a relatively long time to increase steaming rates. Clayton Steam Generators are made for just such



Clayton Steam Generator at Jost Chemical

applications. The low water content, that is part of the basic water tube design, allows for rapid increases in steaming rates without a drop in steam pressure and temperature.

Jost operates around 125 psig and 351 degrees F., which is critical for product quality. Good quality steam is essential to product quality. Jost attributes high quality steam, significantly higher than traditional boilers, to Clayton's equipment design and the 99.5% Clayton steam separator.

Jost's high pressure steam is also a safety concern. Steam explosions can cause death, injury and serious property damage, which is a concern associated with conventional steam boilers and their large reservoir of water. These explosions cannot occur with the Clayton Steam Generator because there is relatively little water in the generator water tube coil. Jerry was familiar with that advantage.

Costs are always a primary concern. Jerry studied his Clayton maintenance costs, efficiency costs and equipment footprint costs. Clayton Service was used for annual repair and replacement of parts for the Clayton Steam Generators. Jerry was very happy with Clayton factory direct service and that cost of repair. Through experience, Jost Chemical understood that Clayton Steam Generators are known for their fuel efficiency, which comes from two primary areas; design and operational. Counterflow design brings controlled, forced, and circulating feedwater to the combustion gases and leads to optimum heat transfer. Space was considered a premium cost for Jost Chemical, either for an existing installation, or for a new building, where the cost of construction is important. Jost Chemical considered Clayton as the ideal solution for space considerations. Clayton's small footprint, typically 1/4th to 1/3rd of a conventional boiler, means that the Clayton Steam Generator can be placed in an existing facility without the need for new construction. For a new Jost facility, construction costs would be reduced.

Today, Jost Chemical manufacturers and ships over 150 distinct, high purity, specialty bulk chemical products all over the world. One thing hasn't changed. The same commitment to producing high purity products that meet customer requirements and a loyal commitment to Clayton Industries to provide their steam plant needs.



# *Your Single Source For Steam Technology Since 1930*



Industry has turned to Clayton Steam Generators time and again over the decades, simply because they do so many things so well. From single unit packaged skids to complex multi-unit installations plus heat recovery in CHP projects, Clayton Steam Generators supply premium steam as a vital ingredient in your process, boosting in-plant efficiency, lowering costs and economizing on fuel.



Clayton Steam Generators, setting world standards since 1930 for operating efficiency, fuel savings and safety, are backed by extraordinary customer service. Factory direct service technicians provide start-up and training plus preventative maintenance programs tailored to fit your company's needs. In addition, Clayton offers a complete line of Coil Guard water treatment chemicals supported by a dedicated chemical service group.

## *Clayton* **INDUSTRIES**

*Your Single Source for Steam Technology Since 1930*

**World Headquarters**  
17477 Hurley Street  
City of Industry, CA 91744  
800.423.4585 tel • 626.435.0180 fax  
email: sales@claytonindustries.com  
www.claytonindustries.com

**Europe, Africa &  
Middle East Headquarters**  
Rijksweg 30 • B-2880 Bornem, Belgium  
32.3.890.5700 tel • 32.3.890.5701 fax  
email: sales@clayton.be  
www.clayton.be

**Latin America Headquarters**  
Manuel L. Stampa 54 • Nueva Industrial Vallejo  
Mexico D.F., 07700 Mexico  
Toll Free: 01.800.888.4422 • (55)55.86.51.00 tel  
(55)55.86.23.00 fax • email: claytonmexico@clayton.com.mx  
www.claytonmexico.com.mx

ATLANTA • BOSTON • CHICAGO • CINCINNATI • CLEVELAND • DALLAS • DETROIT • KANSAS CITY • NEW YORK/NEW JERSEY • SAN FRANCISCO

Clayton Deutschland GmbH  
Clayton Thermal Products Ltd (UK)

Clayton Scandinavia A.S.  
Clayton Nederland B.V.

Clayton de France S.A.R.L.  
Clayton Sales & Service Canada

**World Leaders in Precision Steam Generators, Fluid Heaters, Heat Recovery Systems and Customer Service**