STEAM AND THERMAL CONCEPTS

A division of Steam Specialty Sales

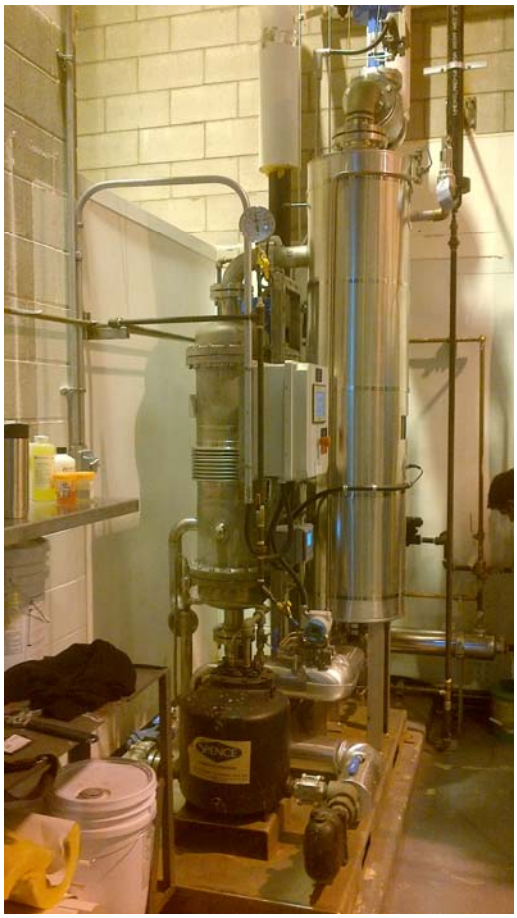
Sunny Side up for Cleaner Steam

Business Case

A food company in Ontario was asked by its client, a major food services business in Canada to improve the quality of its product.

With the increasing focus for healthy additive free food, the manufacturer of egg based convenience foods wanted to ensure any steam used in the cooking process is free of boiler chemicals and other contaminants typically found in an industrial steam system.

They approached Steam and Thermal concepts , the systems division of Steam Specialty Sales who have been "in the business of steam" for over forty years.



The Solution

Using a design based on a pharmaceutical industry specification, Steam and Thermal concepts offered an 316L clean steam generator that could provide Amine free steam to the process equipment. Using boiler steam at 32 psig the Colton clean steam generator produced clean steam at 12 psig that can react quickly to changes in loads.

The design is based on a rising film single pass heat exchanger and external flash tank which acts as a vertical steam drum.

The unit is controlled on pressure and level using an Allen Bradley HMI using Micrologox PLC and 10" HMI screen.

The boiler steam was controlled using a 3" industrial grade Ecotrol control valve.

Level control was with a Siemens DP cell.

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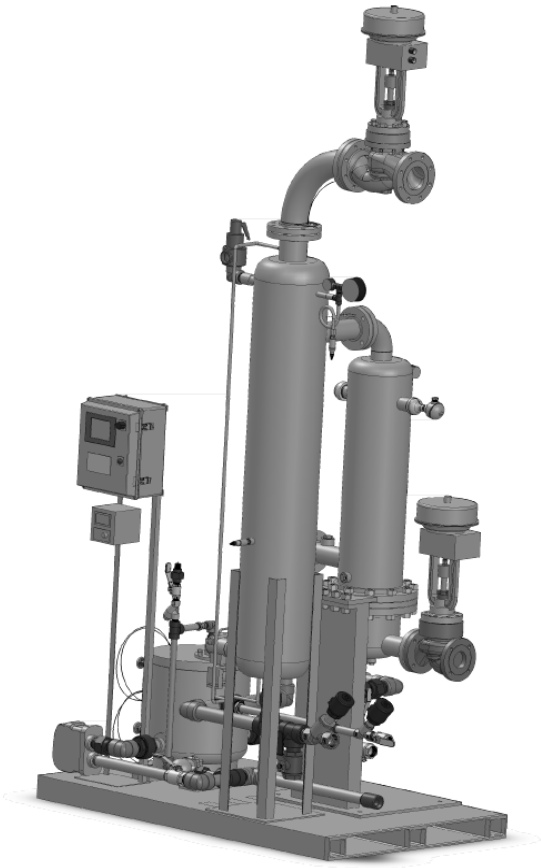

System Specification

- **1500 pph clean steam using boiler steam at 32 psig**
- **Vertical 316L flash tank ASME VIII**
- **Vertical single pass heat exchanger 316L**
- **3" Forbes Marshall steel 150# steam inlet valve**
- **Design pressure 150 psig**
- **Footprint 36 x 72 x 96"**
- **4" Stainless steel back pressure valve for minimal carry over**
- **Steam quality in excess of 3A filtered steam**
- **Allen Bradley Micrologix 1400 HMI**
- **Nicholson P3 pump trap for rapid return of condensate**
- **Siemens 7MF4333 DP cell for level**
- **HACH conductivity controls for blowdown**
- **CRN and CSA for Canada**
- **ASME VIII design**
- **Passivated internals**

Customer Benefits

The customer has reported virtually dry contaminant free steam to the process. The changes in loads were easily met with the instantaneous design. The generator was chosen for its small footprint, fast acting controls and its ability to produce high quality steam.

The package was designed for ease of installation with all major components subject to a FAT prior to shipment to site. The HMI offers a simple screen set up for steam drum pressure control and level. The PID settings were tuned during commissioning and the unit will be subject to a twice yearly "health check" by Steam and Thermal Concepts.

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