CASE STUDY

Air Liquide E&C expedites oleochemical project with Octave Aspect Pressure Vessel

Key facts:

Company: Air Liquide Global E&C Solutions

Website: www.engineering-airliquide.com

Industry: Chemical

Country: India

Octave products used: Aspect Pressure Vessel *(PV Elite)*

Key benefits:

- Met tight commissioning deadline to design 58 pieces of complex equipment
- Succeeded in team's first time designing heat exchangers
- Completed the analysis and design of columns and heat exchangers efficiently and with high accuracy

Air Liquide Global E&C Solutions India (Air Liquide E&C), the engineering and construction unit of the Air Liquide Group, applies cutting-edge innovation to a comprehensive portfolio of proprietary technology for processing facilities and related infrastructures worldwide. These include technologies for the generation of hydrogen and nitrogen, cryogenics, synthetic gas, petrochemicals, liquefied natural gas (LNG) and oleochemicals.

Identifying goals

Air Liquide E&C was selected for the Godrej II project in Valia, Gujarat, India, involving two oleochemical production facilities. The project included a fatty acid fractionation and distillation plant (Unit 105) with a capacity of 120 tons per day (TPD) and the glycerin distillation and bleaching plant (Unit 104) with a capacity of 35 TPD.

Based on Lurgi technologies, the plants provide high purity end products used in foods, cosmetics, detergents, surfactants, and pharmaceuticals. Air Liquide India provided basic and detail engineering, procurement, erection, and commissioning services.

Overcoming challenges

The Godrej II project posed significant challenges for the firm's engineers, including a tight commissioning deadline of 12 to 14 months for the design and delivery of nearly 60 pieces of complex equipment.

"This was also the first time our team had designed heat exchangers," said Arvind Raina, assistant lead for the New Delhi team at Air Liquide E&C.

Without automation tools, engineers would typically end up with errors in the analysis and design, resulting in wasted time and expense for rework.

To address the project challenges, Air Liquide E&C chose Aspect Pressure Vessel because it incorporates the necessary design codes and has the automation tools needed to ensure optimum design in minimum time.

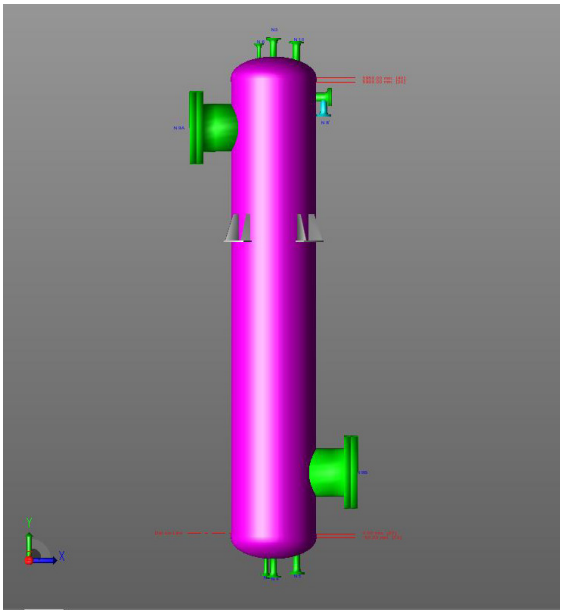
With Aspect Pressure Vessel, the team quickly and easily performed the rigging analysis for columns and analyzed the expansion bellows for the heat exchangers. The company was also able to design the special heat exchangers required for the project that usually do not qualify for the Tubular Exchangers Manufacturers Association (TEMA) classification.

"With Aspect Pressure Vessel, we saved a lot of labor hours and eliminated errors, avoiding costly rework. It would have been impossible to meet the tight design schedule and commissioning deadline without Aspect Pressure Vessel."

Arvind Raina
Assistant lead for the New Delhi team at Air Liquide E&C

Realizing results

Air Liquide E&C completed all design calculations and then generated the mechanical data sheet and other deliverables. Aspect Pressure Vessel made it possible to complete the analysis and design easily and quickly and with high accuracy.



About Octave

Octave is a leader in enterprise software, turning data into decisive action and intelligence into your edge. Our software solves for and simplifies complexity, from the design and build to operations and protection of people, property and assets – for any scope, at any scale. For decades, we've partnered with customers to sharpen performance, elevate efficiency and amplify results. From factory floors to entire cities, our solutions are tuned to scale up what's possible from day one onward.