CASE STUDY

Jonell Systems Revolutionized a Traditionally Complicated and Costly Process

NGL SWEETENING HAS BEEN MADE SAFER, QUICKER AND MORE COST-EFFECTIVE WITH INNOVATIVE COMPACT AMINE CONTACTOR DESIGN VESSELS.

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INITIAL SITUATION

In NGL processing, controlling acid content is an essential step in producing on-spec product. Amine treatment of NGL fluids is one of the most challenging and costly parts of the process. Traditionally, this is accomplished using large contactor column with significant residence time requirements and velocity limits

CHALLENGE

Due to the ultra-low interfacial surface tension between the NGL and the Amine, the droplet size and stability are significantly reduced when compared to normal NGL service. Capturing, coalescing, and separating are more difficult and require different designs in order to ensure the amine can be separated.

One concern with the large vertical contact towers or traditional coalescers is the loss of production time during turnaround and upsets. Human access is required to maintain the internals or change the cartridges. Typically, extra lifting equipment is needed to provide access to the tightly, confined space. Downtime for this operation can cost up to $2 million per day.

SOLUTION

Using decades of cumulative experience in design and process expertise, engineers at Jonell Systems were successful at developing a compact contactor system which offers significant advantages over the large vertical contactors.

Pre-filtration is one of the keys to proper coalescing and enables the coalescer to achieve the highest efficiencies possible — even with low surface tension amine-laden liquids. The innovative design includes a Quick Opening Closure (QOC) and effectively reduces the change out process from several days to several hours. The cost savings in operational downtime has proven to be a groundbreaking improvement and allowed customers to maintain uptime that is far above the industry average.

Additionally, the ability to change out cartridges and perform routine maintenance without the need for confined entry space entry has substantially increased productivity, decreased costs, reduced risks, and improved safety. Combined with easier inspections, a smaller footprint, and improved productivity, the compact coalescer improves the Total Cost of Ownership.

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