

FTC Invicta™ Filtration Solution for Permian Basin Gas Processing Facility



PROBLEM

The customer operates a gas processing facility in the Permian Basin and has four amine filter vessels per train. Two of these vessels are used to filter rich amine, one is used for lean amine filtration, and the last is used for post carbon filtration on the lean side. Each of these vessels held 59 of a 2.5" OD x 40" length filter cartridge. In 2018, all four vessels had been upgraded from string wound cartridges to FTC's Clarify 250, 10-micron (99.98% efficiency) pleated media filter cartridges. The Clarify 250 cartridges cleaned the customer's system by eliminating solids-related process issues, but the frequency of filter change-outs was more than the plant desired. The facility was scheduled to begin ramping up to full capacity and wanted a solution that would maintain FTC quality but also reduce the frequency of changeouts.

ANALYSIS

The customer was introduced to FTC in 2018 via our regional distribution partner who had originally helped the customer upgrade from string wound filters to high-efficiency FTC Clarify 250 cartridges. The distributor's sales representative noted the customer's concerns about changeout frequency. In response, he suggested Invicta™ as an option requiring only a simple vessel retrofit. FTC's technical team reviewed the amine system process conditions and measured the customer's four housings to analyze the impact Invicta™ cartridges could have on the gas plant's operation.

SOLUTION

A proposal was presented to the customer that included a custom-engineered tube sheet upgrade to accept

FTC's new Invicta™ cartridges. It was determined that the customer could replace the 59 Clarify cartridge filters currently used in each vessel with 15 Invicta™ cartridges, gaining 84% more surface area over their current filters and over 1,384% when compared to the original string-wound filters. The customer, realizing the potential for extended filter life, operational time savings, and indirect cost savings, decided to upgrade to Invicta™ technology.

RESULTS

The Invicta™ install was completed within the scheduled time, with each of the four vessels taking around two hours to upgrade. An immediate benefit for the customer was seen when comparing downtime requirements before and after Invicta™. Before making the switch to Invicta™, the customer had been changing filters once a week. Following the installation of Invicta™ filters, the customer has seen run times of four to five weeks and longer. Additionally, the ease of changeout associated with Invicta™ filters has resulted in labor savings and a reduction in the number of operators required for change-outs. With Invicta™ filters, the customer has realized both top-line and bottom-line cost savings and has reported no troubles resulting from the change.

INVICTA™ LIQUID-SOLIDS FILTERS

Invicta™ liquid-solids filter cartridges are designed to provide the most cost-effective filtration solution on the market. This innovative, patent-pending technology offers a significant improvement to the conventional filters used today. Because of its revolutionary design qualities, Invicta™ can provide up to 176% more surface area in a vessel footprint over conventional cylindrical filters. The trapezoidal, coreless design allows more elements to be placed in a vessel by reducing the amount



Invicta™ cartridges installed on new guideposts

of wasted space in traditional cylindrical filter designs. This results in lower clean pressure drop, higher solids loading capacity, and longer life which means fewer changeouts and greater overall cost savings.

ABOUT FTC®

Since 1987, Filtration Technology Corporation (FTC) has built a reputation for developing and delivering innovative products at the forefront of filtration technology. We engineer and deliver the highest quality process solutions, training, testing, and cutting-edge technology with unparalleled service and support. Through the ongoing development of new, game-changing products, FTC continually redefines success for our customers.



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