

FTC Invicta™ Delivers Amine Filtration Solution for Texas Gas Processing Facility



PROBLEM

A Texas gas processing facility was experiencing bypass problems on their lean amine filtration. Inefficient 336-style filters (3" OD x 36" length) provided a poor seal with a single open-ended gasket on the seat cups, which lead to contamination with their Train 2 amine filtration. An FTC distributor informed the operator that Invicta technology could not only provide a better effluent product but could also solve their bypass issues with a superior sealing solution (an O-ring seal with a compatible guideboard and receiver), all while being more cost-effective year over year.

ANALYSIS

With their current filter elements, this gas plant was spending more than \$200,000 per year, and changing out 32 filters at an average frequency of three times per week. The customer was looking for a way to improve the effluent amine stream while also trying to find a way to reduce the current annual spend on filtration. The Train 2 amine process was running with the following parameters:

Inlet Gas Flow: 180-220 MMSCFD

Gas Pressure: 900-1000 psi

Type of Amine: aMDEA

Amine Concentration: 40-50%

Amine Flow Rate: 250-350 GPM

Lean Amine Temperature: 240°-245°F

SOLUTION

FTC's distributor proposed a retrofit upgrade on the gas plant's problematic lean amine filter vessel to enable it to accept FTC's Invicta™ filters. The upgrade would take the current thirty-two (32) elements and replace them with

eight (8) Invicta™ elements, resulting in a 49% increase in effective filtration surface area. FTC's distributor worked alongside the gas plant operators to ensure a seamless transition while providing them with customized analysis provided by FTC on the benefits this upgrade would have on their OPEX associated with weekly changeouts, disposal, and labor.

RESULTS

Following the transition to Invicta™ cartridges, the gas plant found their first run of elements lasted nearly four weeks, as compared to the three changeouts per week with their previous filtration units. Since that first run, they have enjoyed an average of six weeks between changeouts and have noted an immediate clarity difference in their effluent amine stream due to the efficiency of Invicta™ technology. The gas plant was extremely satisfied with the solution provided for their Train 2 amine process and has plans to move forward with a similar proposal FTC has provided for Train 1.

Utilizing the analysis and extrapolating current performance data at the gas plant, FTC expects that this plant will see their changeouts drop from 182 per year to 60 per year. This represents a 56% improvement over their previous filtration solution in direct annual filtration savings, and does not include indirect savings such as labor, disposal, and shipping costs. In addition to the direct operational savings, the plant will also recognize significant process-related savings with more stable operations resulting from reliable, efficient filtration.

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™



Eight Invicta™ cartridges after installation in the customer's upgraded vessel

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 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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