

CASE HISTORY

EVALUATION OF A COMPETITOR'S BAG FILTERS WITH THE PLATINUM SERIES FILTER IN A DIETHANOL AMINE SYSTEM

Objective: To compare the performance of a competitor's 527A bag filter with FTC's PS-528-PP245 test filter in a Diethanol Amine (DEA) system.

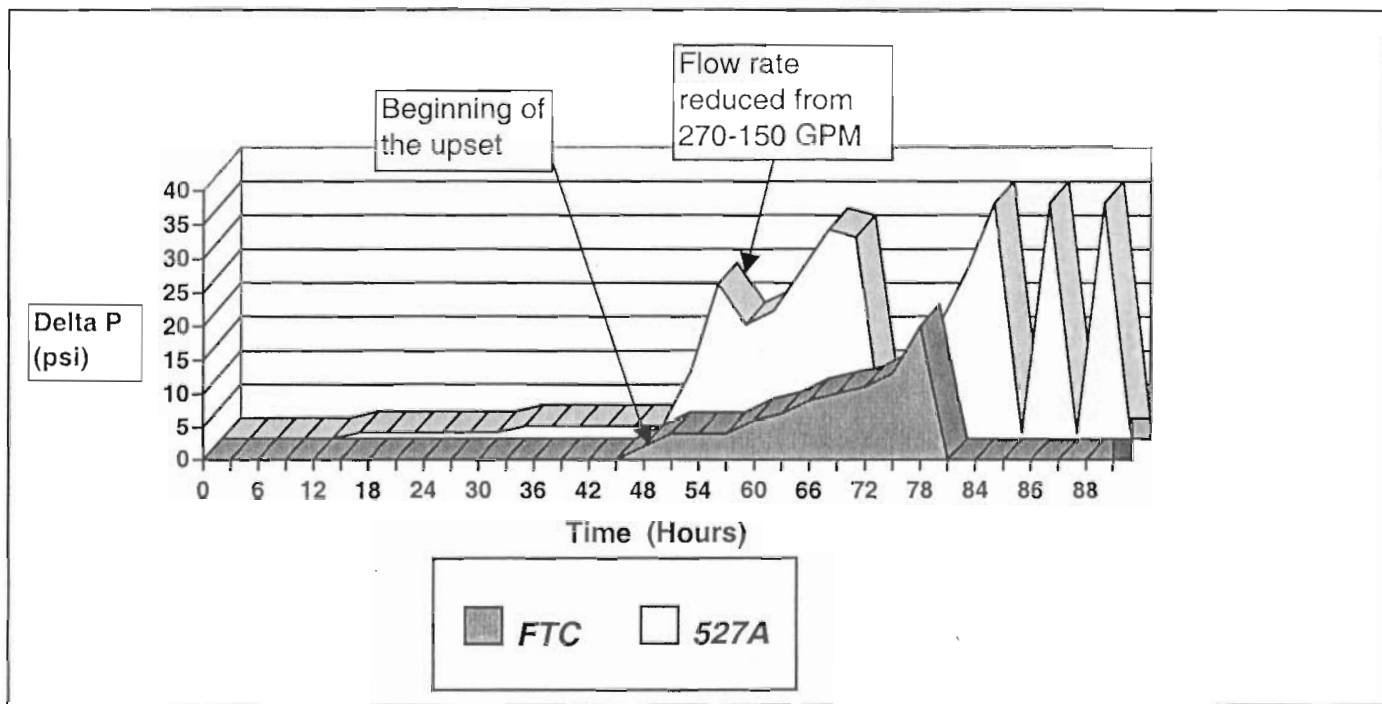
Background: This South Texas refinery operates a central DEA process that receives amine from 18 contactors. The process removes hydrogen sulfide and carbon dioxide gases from the amine and returns sweet DEA back to the contactors located throughout the complex. Frequent change outs have resulted in a search for filters that can economically provide longer filter life than the 527A bags currently used. Consequently, FTC conducted an evaluation to demonstrate the performance of the Platinum Series filter in the DEA system.

Side Stream Test and Process Conditions

Process Conditions	Side Stream Test	Process
Fluid	Diethanol Amine (DEA)	
Percent of Slipstream	N/A	20%
Number of Filters	1	8
Temperature	160 °F	
Pressure	95 PSIG	40 PSIG
Flow Rate	30 GPM	250-270 GPM

Test Results and Discussions: The side stream test results are shown on Chart I.

Filter Cycles (Time Vs Delta P)



Note: The process upset began approximately 48 hours into the test comparison.

Upset conditions caused operations to reduced the flow rate to the 527A bag filters from 270–150 GPM (19 GPM/element). This prolonged the life of the 527A bags from 5 – 20 hours. The FTC Platinum Series test element continued to filter the process DEA for 34 hours at standard process flow rates (30 GPM/element).

Conclusions: The Platinum Series filters are expected to last at least six times that of the 527A bag filters at standard process flow rates.