



Pall Corporation

PROCESS FLUID

Application Bulletin



Refining

Application

Use of lower cost 'opportunity crude' feedstocks is of interest to many refiners as a way to increase refinery profitability so long as these heavier, dirtier feeds can be processed reliably in existing units.

Problem

The higher solids content of many opportunity crudes increases the risk of hydrocracker or hydrotreater catalyst bed fouling due to the higher levels of solid particulate. If bed fouling causes a rise in bed differential pressure or catalyst activity loss leading to reduced campaign length, the economic benefit of the lower cost crude is lost.

Solution

A refinery who was interested in processing opportunity crude had already made the installation of a High Flow rental housing to protect their hydrocracker, and had been so pleased with the results they purchased the rental housing after six weeks online. They had a novel idea – let's purchase some additional sets of filter elements to allow us to reliably run the opportunity crude through the hydrocracker.

Results

In advance of running the opportunity crude, the site purchased additional sets of Ultiplex® High Flow filter elements valued at roughly \$175k to accommodate the anticipated increase in element changeout frequency when running the opportunity crude.

Hydrocracker Guard Filter Enables Successful Processing of Opportunity Crudes



An example of a 19-around horizontal High Flow filter housing for hydrocracker bed protection

It is important to note that the operators found the change out of the High Flow elements was quick and easy due to the horizontal housing design giving easy access, the element o-ring seal making for easy element removal and replacement, and the high flow per element capability making for a low number of element changes, even for a large flow. Additional change outs with opportunity crudes was not viewed as an issue.

Over the 3 month evaluation, the refinery estimated to have saved over \$14M in crude costs which were processed reliably, without seeing a rise in hydrocracker bed differential pressure. Increased filter costs were less than the budgeted \$175k. The refinery has been extremely pleased with the results.

Contact us at www.pall.com