

Revamp of a Heavy Aromatics Fractionator

Location: Gulf Coast

Tower Name: Preflash Tower

Tower Diameter: 13 feet (3962 mm)

Mass Transfer Equipment:
5 beds of FLEXIPAC® HC®

History: This Gulf Coast operator wanted to increase the recovery of a key heavy aromatics by 41% while keeping other products at the existing level. To achieve this goal, the column needed 35% more feed and required 37% more stages.

The tower is part of a series of towers utilized to recover various aromatics products. The column has one feed with an overhead and a bottom product. The producer desired to maximize the recovery of one of three isomers in the bottom product while maintaining specifications for low concentrations of the light boiling isomer in the overhead stream. Prior to the revamp the column contained 70 conventional valve trays.

Problem: With conventional packing or trays, the additional capacity could not be achieved without adding another vessel to the fractionation train.

Solution: In the fall of 1999 the column was revamped by replacing the trays with five beds of FLEXIPAC HC 1Y packing. Koch-Glitsch's also supplied and installed trough liquid distributors, collectors and a vapor distributor to ensure high quality vapor and liquid distribution.

Results: The column now operates at the increased capacity. A test run was conducted to verify the packing achieves the expected HETP of about 12 inches, the pressure drop meets expectations and the higher recovery rate of the desired isomer was achieved. This application also demonstrates no loss of efficiency compared to the conventional FLEXIPAC® packing.

