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Evaluation of increasing the pressure drop of fixed bed reactors in RCD unit

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The unit of RCD (Reduced Crude Desulfurization) was applied for decreasing of Sulfur, CCR (coradson carbon residue), metals of heavy feeds AR (Atmospheric Residue) and VR (Vacuum Residue), and prepared the feed of RFCC (Reduced Fluid Catalytic Cracking) unit. The unit includes the following parts:

- Feed Pretreating (Filter) Section
- Reactor Section
- Fractionator Section
- Make-up Hydrogen Compression Section

These compounds are easily converted to H₂S. However, feed stocks containing hetero atomic aromatic molecules are more difficult to process. Desulfurization of these compounds proceeds by initial ring opening and sulfur removal followed by saturation of the resulting olefin. Thiophene is considered 15 times more difficult to process compared to diethylsulfide. The main problem in this unit is pressure drop. In this paper, reason of pressure drop and proposed solution in the fix bed reactores has been investigated.

Biography

Ali Shaeri is a student in PhD (Passed General Exam) and working in NIOEC as a senior process engineer and technical consultant for REF Co. He is member of IPS and teaching in the University and member of a Scientific Mission in Elmi- Karbordi University. He was responsible for commissioning and pre-commissioning of process units in Arak Refinery Expansion Project.

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