Steam Cracker Simulations

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Olefins are major building blocks of petrochemicals. In fact, Ethylene is quoted as the king of chemicals as it is the starting point for four very mature-end products: polyethylene, ethylene oxide, ethylene dichloride and ethylbenzene. Propylene is used to produce propylene oxide, butyraldehyde, and acrylic acid besides its main use for making Polypropylene.

Modern ethylene plants incorporate these major process steps: cracking (Furnace), compression (Multi-stage Compressors), cooling (Cold Box) and separation (Columns and Flash Drums) of the cracked gas by low-temperature fractionation.

Plenty of complex optimization parameters related to plant operations are involved in the furnace such as COT, P/E Ratio, Ethylene to Ethane Ratio and S/HC ratio, partial pressure and residence time.

iOG Solutions exactly replicates any complex plant configuration into simulation models and determine the optimum operating point for maximizing profit within safety constraints. Our consultants are skilled in cracker modeling, its simulation and process optimisation.

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