

# **Role of Equipment Design in Enhancing Process and Energy Efficiency**

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Energy and process efficiency are the main keys for the performance of any processing plant. The process optimization lies in minimal energy and reagents consumption with maximum throughput, which can significantly reduce production cost. It further aids in process optimization that would result in achieving better product quality.

Equipment design is the heart of any processing system! Selecting the right process and then selecting suitable equipment will lead to the overall success of the processing system.

As everybody knows, equipment used in oil processing are pumps, heat exchangers, mixers, high efficiency reagent dispersing systems, blenders, clarifiers, separators, filters, mass transfer systems, vacuum pumps, blowers, conveyors etc.

Every equipment design is process specific and its efficiency lies in the minutes of the process parameters. Type of operations and conditions also taken into consideration while designing.

Just as an example, designing of liquid – liquid reagent dispersing system (high efficiency mixer). The principles and parameters to be taken into consideration for its optimum possible effectiveness for reach of the smallest possible reagent drop with main service liquid drop. Considering and implementing the appropriate concepts while designing the equipment for the said duty will make difference with the efficiency of the process so as to the process cost.

The presentation covers some more process equipment design, which will help the processors to co-relate with existing systems in use as well as update the systems.