



TNCHE Asia 2024 Conference
" Decarbonization, AI and Digital Transformation
for Sustainability in Process Industries "
Presenter's Biodata & Abstract



Full Name : Sangdoe Kim

Company/ Organization : Honeywell UOP

Current Position : Project Sales Manager

Title of Presentation : Energy Optimization for Distillation Column by UOP Equipment



Presentation Abstract :

Distillation process in the Refinery and Petrochemical plant is known to consume 40% of the total energies. UOP's high performance heat transfer and distillation equipment can help optimize distillation process for energy savings. For distillation columns, UOP's MD™/ECMD™/ECMD+™ Trays, as the first multiple downcomer counter-current type trays in the market, having unique feature to install the trays at very low tray spacing as low as 200mm, can add more number of trays in the given column height so that the column can operate at near the minimum reflux rate. The capability to be able to install at very low tray spacing can be utilized to improve the overall column efficiency to satisfy customer needs to improve production capacity, product quality or to reduce energy consumption. Another benefit of UOP trays is we can design the column pressure drop at much lower level than existing ones. The reduction in overall column pressure drop gives some flexibility to get more MTD out of the reboiler by maintaining the bottom pressure lower, or the condenser by maintaining the column overhead pressure higher.

For further optimization in the condenser or reboiler, UOP offer High Flux™ and High Cond™ tubings that are used in shell and tube exchangers with special engineering surfaces that enhance the performance of exchanger in either boiling or condensation. These tubes have been used for 60 years in various applications to reduce the CAPEX and OPEX requirements of shell and tube exchangers. UOP have about 2000 units installed worldwide and out of these 440+ are installed in revamp projects. These high performance tubes can be utilized to recover waster heat or to use lower grade energy source or to optimize the column operation in the condenser or in the reboiler standpoint.