



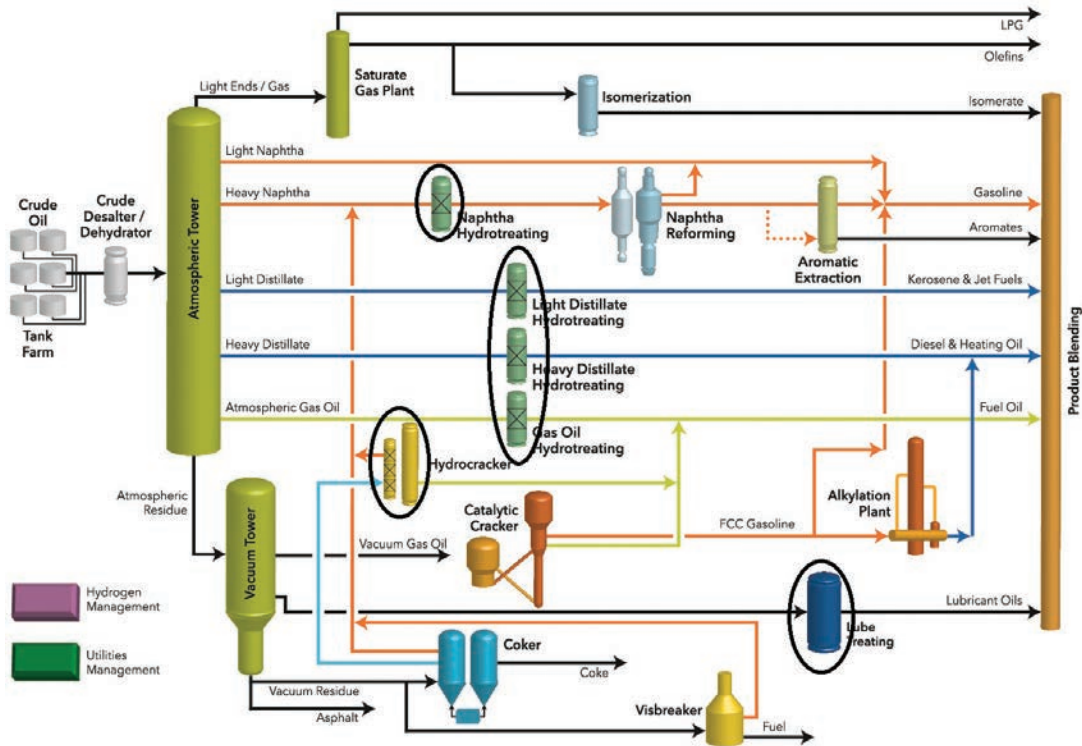
AVEVA

PRODUCT DATASHEET

ROMeO HDP Reactor Model

Rigorous hydroprocessing modeling

ROMeO HDP Reactor model is among AVEVA's industry-leading refinery reactor models in ROMeO Process Optimisation. The HDP Reactor model can be used to model industrial hydrotreating and hydrocracking reactors of different designs.



Features

The HDP model offers the following key features:

- Rigorous kinetics and thermo for accurate modeling of the processes in wide operating ranges
- Structure-oriented lumping (SOL) approach for more detailed and accurate feed and product representation
- Models for various hydrotreating and hydrocracking reactors processing naphtha, diesel, gasoil, atmospheric and vacuum resid by switching catalyst type
- Feed characterisation utilising feed distillation data, gravity, and sulfur and nitrogen contents, and/or PONA to generate feed SOL components included
- Very flexible configuration, can be configured to have one or more reactors (beds)
- Predicts product composition and properties such as sulfur and nitrogen contents
- Catalyst activities and reaction constants tunable while the model is online to maintain model accuracy with changing feeds and operating conditions

Summary

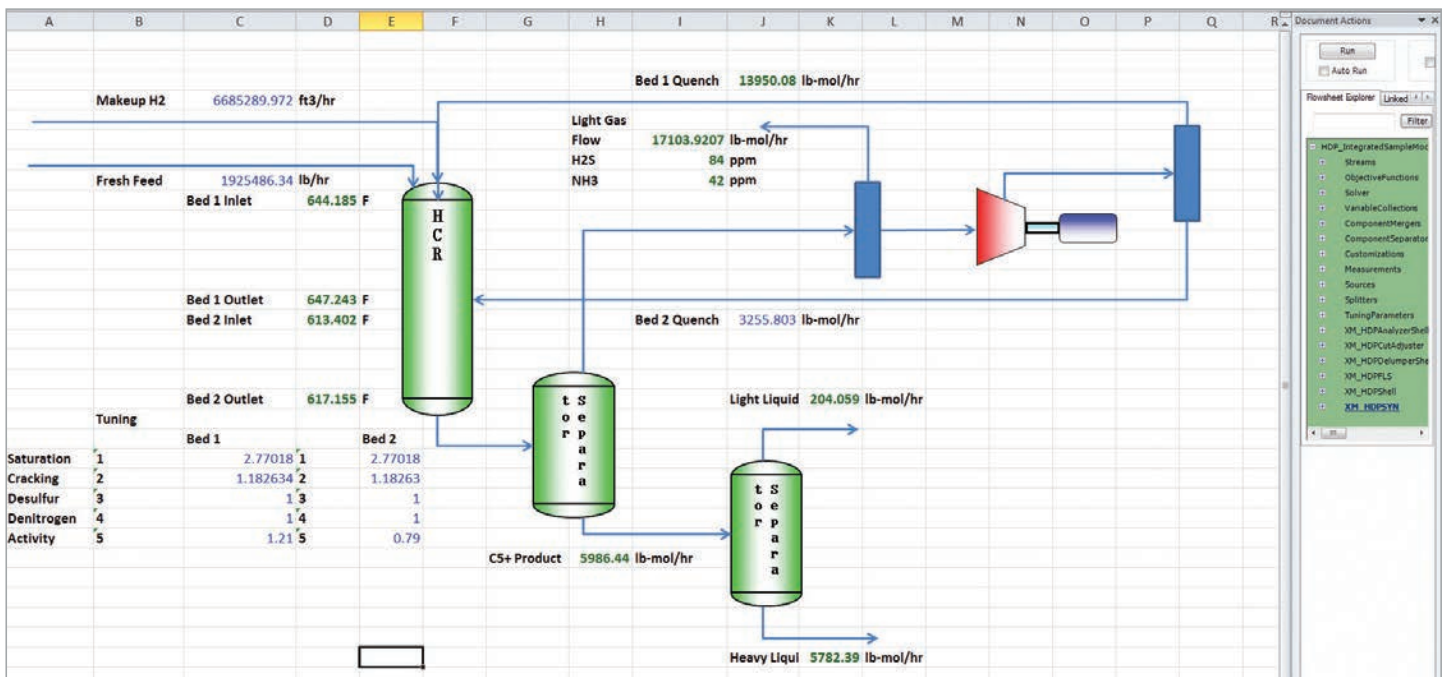
ROMEo HDP Reactor Model provides you with a key component of the refinery, hydroprocessing (HDP) units, within the ROMEo modeling offer. HDP units can be simulated, monitored and optimised. Tested and proven on industrial units, the model provides flexibility to tune reaction parameters online, providing an accurate representation of your HDP reactor.

Business Value

- Insight into the HDP process
- Tool for debottlenecking and process improvement studies
- Monitor, track and report HDP operation, i.e., tracking reactor bed temperatures and catalyst activity for peak performance
- Maximise profit by optimising the HDP unit continuously

Applications

- Refinery-wide modeling and optimisation for understanding the interaction between the HDP and upstream/downstream units
- Operator and engineer familiarisation for better understanding of the process
- LP Planning model updates based on current HDP unit characteristics and operating conditions
- Online and/or Offline HDP performance monitoring and optimisation
- Offline engineering & process improvement studies with offline SIM4ME® Portal excel interface



ROMeo Refinery Modeling

ROMeo Process Optimisation is a unique solution that enables scalable refinery-wide modeling & optimisation. While traditional modeling solutions can only simulate individual process units or provide point solutions to solve a specific problem, It provides a scalable platform that enables companies to optimise refinery-wide

performance as well optimise other aspects of refinery profitability such as Utilities and instrument/equipment health monitoring. Additional benefits are derived from leveraging data generated from rigorous models to enhance planning and scheduling decisions, leading to increased refinery margins.

