

Aspen HYSYS® Petroleum Refining

Improves refinery simulation modeling to drive increased profitability

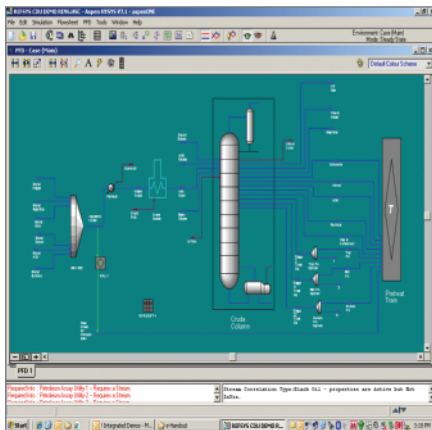
Aspen HYSYS Petroleum Refining layers powerful features onto the Aspen HYSYS® process simulator to simplify and improve petroleum refining simulations. Streams are driven with crude assays that support an extensive set of stream petroleum properties. Complex, multi-unit simulations can be quickly configured incorporating key conversion units such as FCC and associated fractionation.

Key Benefits

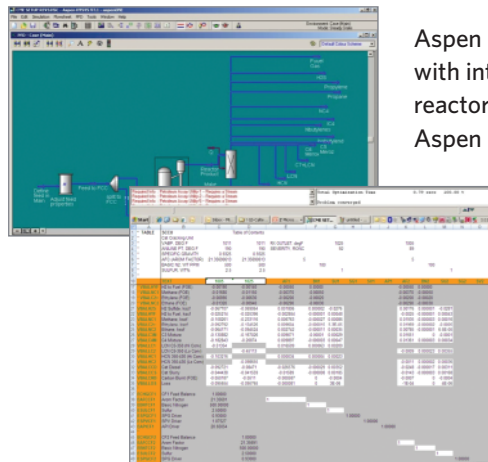
- Better crude feedstock selection in planning models
- Improve operations with more accurate scheduling models
- Operability studies to confirm the feasibility, safety and reliability of potential crude blends
- Improve unit profitability with engineering studies (e.g., cut point optimization, catalyst selection, heat exchanger monitoring)
- Improve refinery margins through re-evaluation of feed routings in multi-unit configurations

Advanced Simulation Improves the Decision-Making Process

Refinery operators are challenged with making complex business decisions that play a key role in determining the profitability of operations. Tools that can enable the optimization of these decisions provide significant value and contribute to the success of refining operations. Aspen HYSYS Petroleum Refining allows the simulation of multi-unit flowsheets based on easy to manage component lists, resulting in faster and more accurate predictions. Moreover, the propagation of those properties speeds the integration of reactor models, since the required properties are easily transitioned through the reactor units. With these capabilities refiners can improve planning and scheduling models, enable operations decision support, and perform multi-unit engineering studies. Together, these applications allow faster, more accurate and frequent decisions to improve refinery profitability.



Crude unit modeling with improved handling of crude blends.



Aspen HYSYS Petroleum Refining with integrated rigorous FCC reactor regenerator model supports Aspen PIMS sub-model updates.

||||||| Key Technical Features

- Stream compositions and properties are driven by crude assay data that can be consistent with assays used in LP planning programs
- Stream properties include an extensive set of petroleum properties such as gravity, sulfur, nitrogen, cloud point, carbon, metals, etc
- Crude assay data can be entered into Aspen HYSYS Petroleum Refining or imported from third-party options
- Rigorous reactor models are available for FCC, naphtha reforming, and hydroprocessing and isomerization using familiar Aspen HYSYS interfaces for calibration and integration into larger flowsheets
- Includes stream data and unit operations models for distillation, reaction, and blending, greatly simplifying complex flowsheets
- Contains both rigorous and simplified unit models to manage the complexity of multi-unit flowsheets
- Provides the data required for support of planning and scheduling models

||||||| Added Value of Integration

Aspen HYSYS Petroleum Refining is tightly integrated with other *aspenONE® Engineering* solutions, including Aspen HYSYS, Aspen Shell & Tube Exchanger, and Aspen Simulation Workbook™. Deeper integration of rigorous engineering models with planning and scheduling models is also enabled. *Aspen HYSYS Petroleum Refining* maintains the open-architecture of Aspen HYSYS and allows third-party technology to be easily integrated using Aspen Simulation Workbook or the Aspen HYSYS extension feature.

||||||| Empower Your Company to Succeed

aspenONE Engineering is an integrated lifecycle solution—from conceptual design through plant startup and operations support—enabling you to model, build, and operate safer, more efficient and more competitive process plants. AspenTech's Engineering Professional Services helps ensure that your project achieves its maximum potential by leveraging our unparalleled industry expertise to design, analyze, debottleneck, and improve plant performance. Combined with our world-class 24/7 technical support service, flexible training options, and local language product availability, AspenTech provides the resources to enable your company to meet and exceed its business objectives. To learn more, visit www.aspentech.com/pro_services.

||||||| About AspenTech

AspenTech is a leading supplier of software that optimizes process manufacturing—for energy, chemicals, pharmaceuticals, engineering and construction, and other industries that manufacture and produce products from a chemical process. With integrated aspenONE® solutions, process manufacturers can implement best practices for optimizing their engineering, manufacturing, and supply chain operations. As a result, AspenTech customers are better able to increase capacity, improve margins, reduce costs, and become more energy efficient. To see how the world's leading process manufacturers rely on AspenTech to achieve their operational excellence goals, visit www.aspentech.com.



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