

Aspen Refinery Multi-Blend Optimizer

A multi-blend optimization tool that can be used for seamless scheduling and optimization of product blending

Aspen Refinery Multi-Blend Optimizer provides off-line blend scheduling and optimization capabilities for gasoline, distillates, fuel oils, and other refined products. It generates optimal recipes for individual blends or aggregates blends into time partitions. Aspen Refinery Multi-Blend Optimizer can be implemented as a standalone system or with Aspen Petroleum Scheduler to optimize blending using the latest refinery schedule and incorporates an on-line Blend Control Interface (BCI).

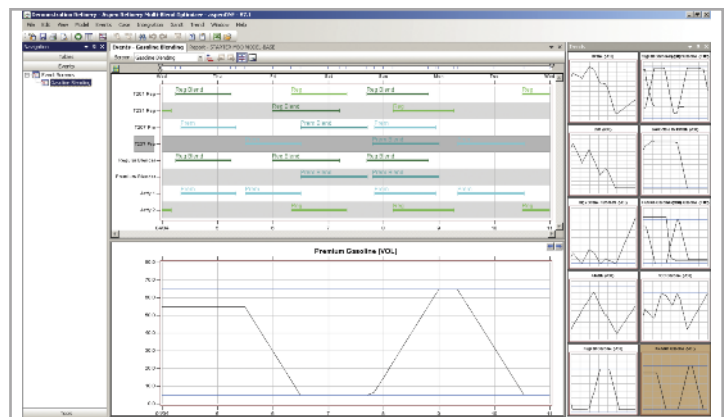
||||||| Maximize Margins from Available Component Streams

Refineries today strive to maximize margins from available component streams while making product that meets market and regulatory requirements. Finished product specifications—including the blending of ethanol in gasoline—are becoming increasingly complex.

Key Benefits

- Improves margins by using the optimal combination of components
- Eliminates off-spec blends and penalties by consistently meeting regulatory requirements
- Reduces blend recipe and blend quality giveaway by making better use of components
- Decreases demurrage, inventory holding costs, and component stockouts by making the right blends on the first attempt
- Upgrades the value of low-value components
- Increases collaboration with planners and schedulers through integration with Aspen PIMS and Aspen Petroleum Scheduler
- Improves interaction with the trading group by providing more valuable information on inventory positions and component requirements

Aspen Refinery Multi-Blend Optimizer is an event-based, multi-period, and multi-blend modeling system that generates optimal blending schedules for short- and long-term campaigns. The application generates and solves non-linear blending problems that span a user-defined time period. It takes into account correlations, tank constraints, discrete volume and recipe constraints, and all relevant events such as blends, product shipments, intermediate receipts, and tank-to-tank transfers.



The above Gantt chart shows blending and shipping events scheduled over a one week period. The bottom chart details the corresponding inventory levels for the same scheduling period.

||||||| Key Technical Features

- Uses the same graphical user interface and shares a common database with *Aspen Petroleum Scheduler*
- Provides event-based optimization including events such as material service, product shipments, receipts, and transfers
- Blend events can be scheduled for single or multiple tanks
- The Single-Blend Optimizer Utility (SBO) enables fine tuning and optimization based on a single event
- Automatic scheduled time periods are calculated based on the start and stop time of actual events—no assumptions needed
- Aspen Blend Model Library (ABML) provides a common set of blending correlations that can be shared between *Aspen Refinery Multi-Blend Optimizer*, *Aspen PIMS*, and *Aspen Petroleum Scheduler*

||||||| Non-Linear Model Flexibility

The result of a successful *Aspen Refinery Multi-Blend Optimizer* run is an optimized blend schedule with optimized product shipment and component receipt volumes. It also provides a blend order ready for execution with information including:

- Order identification
- Start-stop time
- Product tank
- Heel and batch volumes
- Quality specifications
- Component tanks and constraints
- Optimal recipe

||||||| Case Comparisons

For additional analysis, *Aspen Refinery Multi-Blend Optimizer* allows the user to create multiple versions (cases) as needed to represent the different operations of the refinery. Each case uses the same refinery configuration (units and streams) but can differ in operating parameters and prices.

||||||| aspenONE® Planning & Scheduling for Refining & Marketing

Aspen Refinery Multi-Blend Optimizer is a key component of aspenONE Planning and Scheduling for Refining & Marketing. aspenONE Planning & Scheduling integrates planning processes (such as feedstock evaluation, product slate optimization, plant design and operational optimization) and scheduling processes (such as crude and feedstock scheduling, unit operations, product blending and product shipping) in either single or multi-user environments.

||||||| About AspenTech

AspenTech is a leading supplier of software that optimizes process manufacturing—including oil and gas, petroleum, chemicals, pharmaceuticals 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.



Worldwide Headquarters

Aspen Technology, Inc.
200 Wheeler Road
Burlington, MA 01803
phone: +1-781-221-6400
fax: +1-781-221-6410
info@aspentech.com

EMEA Headquarters

AspenTech Ltd.
C1, Reading Int'l Business Park
Basingstoke Road
Reading UK
RG2 6DT
phone: +44-(0)-1189-226400
fax: +44-(0)-1189-226401
ATE_info@aspentech.com

APAC Headquarters

AspenTech - Shanghai
3rd Floor, North Wing
Zhe Da Wang Xin Building
2966 Jin Ke Road
Zhangjiang High-Tech Zone
Pudong, Shanghai
201203, China
phone: +86-21-5137-5000
fax: +86-21-5137-5100
apac_marketing@aspentech.com