Aspen HYSYS® V8

Highlights, Resources, IT Support for V8

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Executive Overview

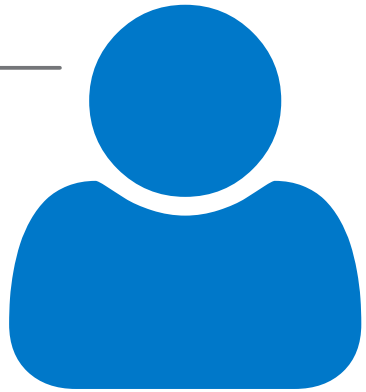
A whole new way to optimize—Aspen HYSYS V8

The Evolution of Process Simulation Software

What do you get when you combine the world's most powerful process optimization software with a rich and engaging user experience? The answer is aspenONE Engineering V8.

Aspen HYSYS has transformed over the past few years from process simulation software to a process engineering software. Boost your productivity and keep projects on track with new features including equipment, model, safety, and sensitivity analysis tools, data tables, and an export feature to Microsoft® Excel. All of these are carefully organized on the contextual ribbons to create an intuitive user experience. This guide is your one-stop resource for information regarding new innovations, performance, available training solutions, and IT solutions.

54%
of aspenONE Engineering users have used V8



87%
of aspenONE Engineering customers have deployed V8 to their users

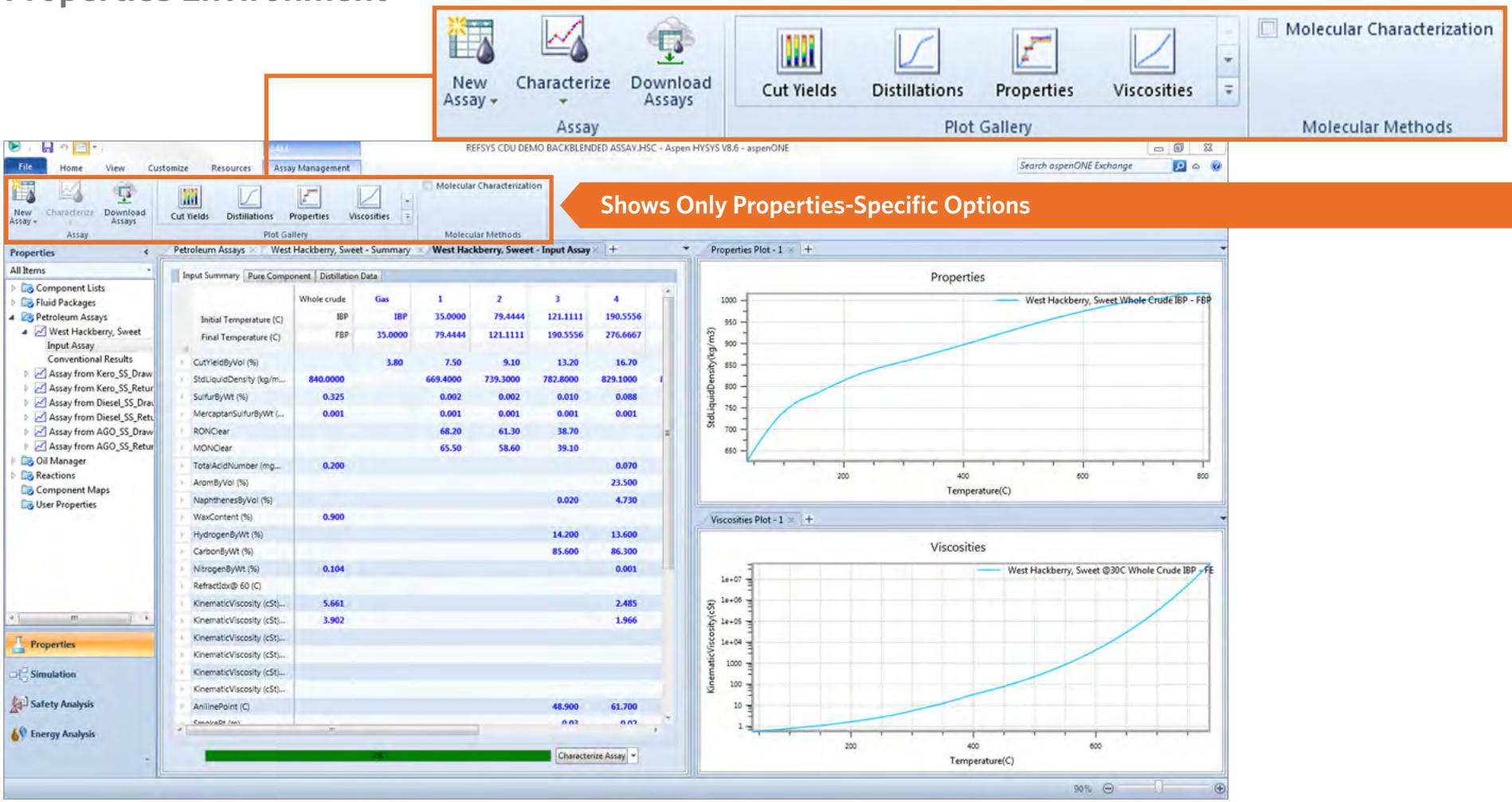
Ease of Use

Designed to work the way you do

Work-Oriented Environments

Find What You Need in Less Time in Task-Specific Environments

Properties Environment

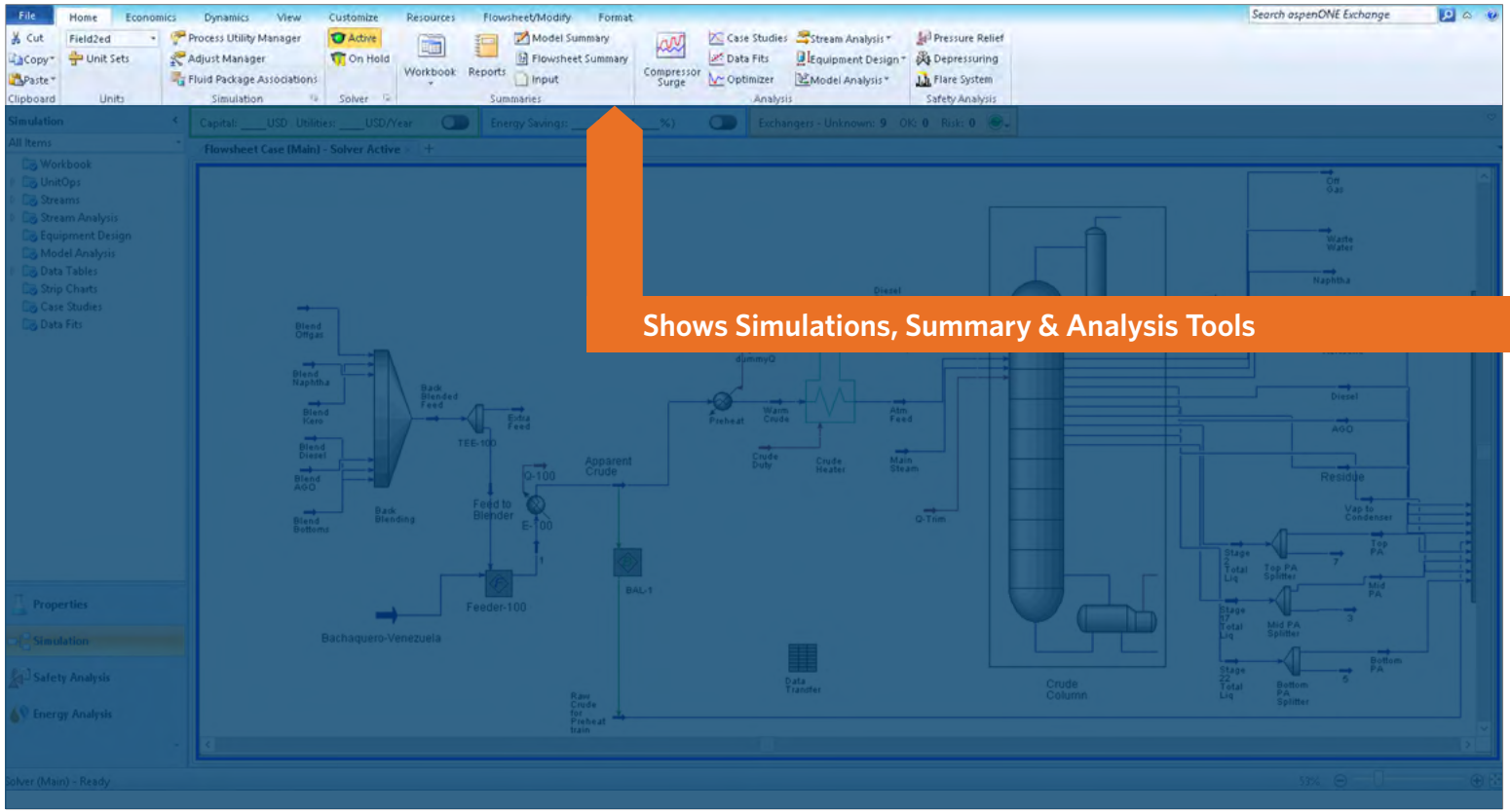


The properties environment is where the foundation of the process simulation is set forth. With a properties-specific navigation tree and properties related ribbons, the properties environment shows only information relevant for defining properties.

Work-Oriented Environments

Find What You Need in Less Time in Task-Specific Environments

Simulation Environment

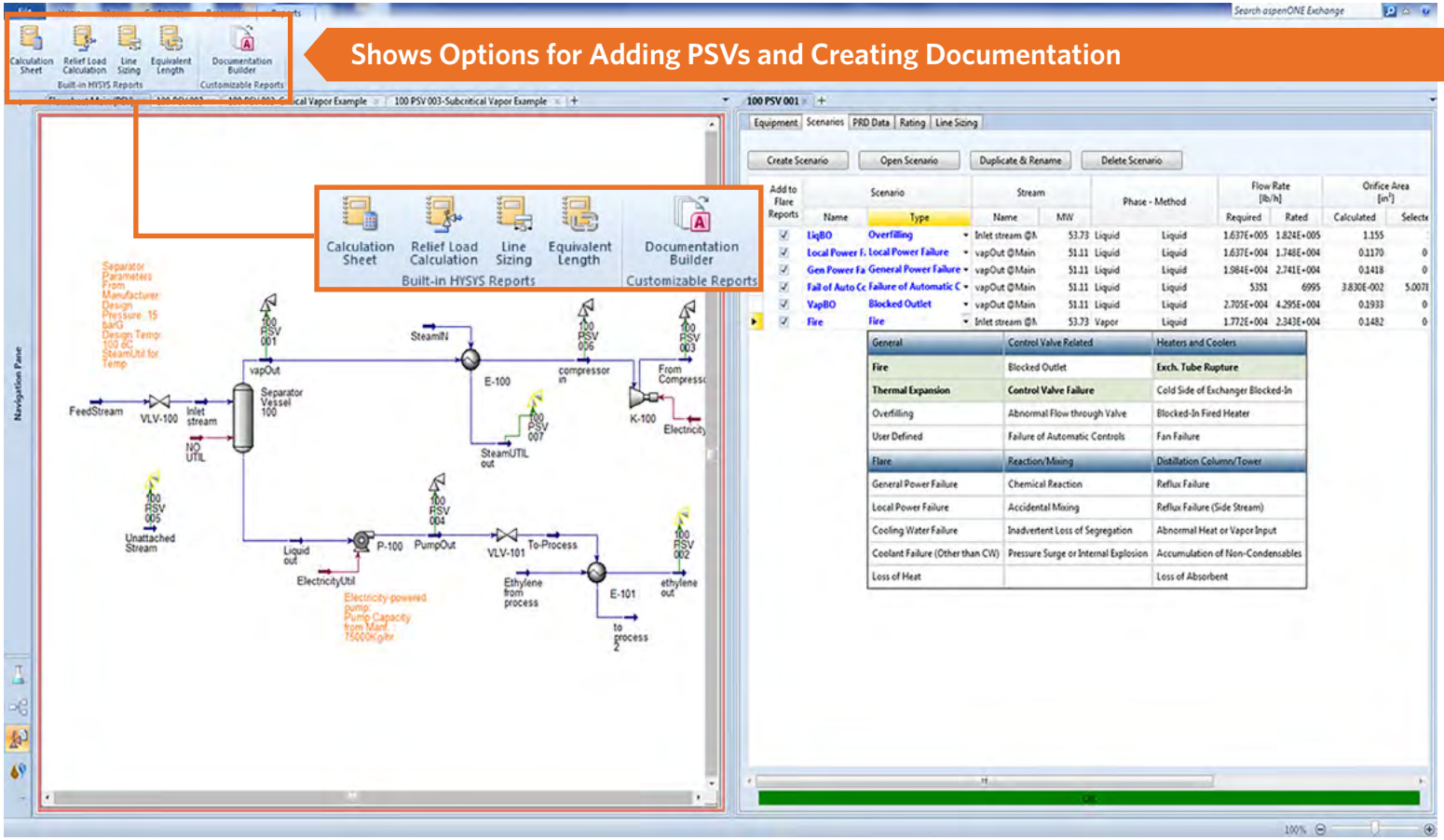


The simulation environment is designed to help you quickly and efficiently build and utilize the process model. With a redesigned model palette, users can access all of the unit operations and streams from one place—wherever they choose to dock it in the user interface.

Work-Oriented Environments

Find What You Need in Less Time in Task-Specific Environments

Safety Environment



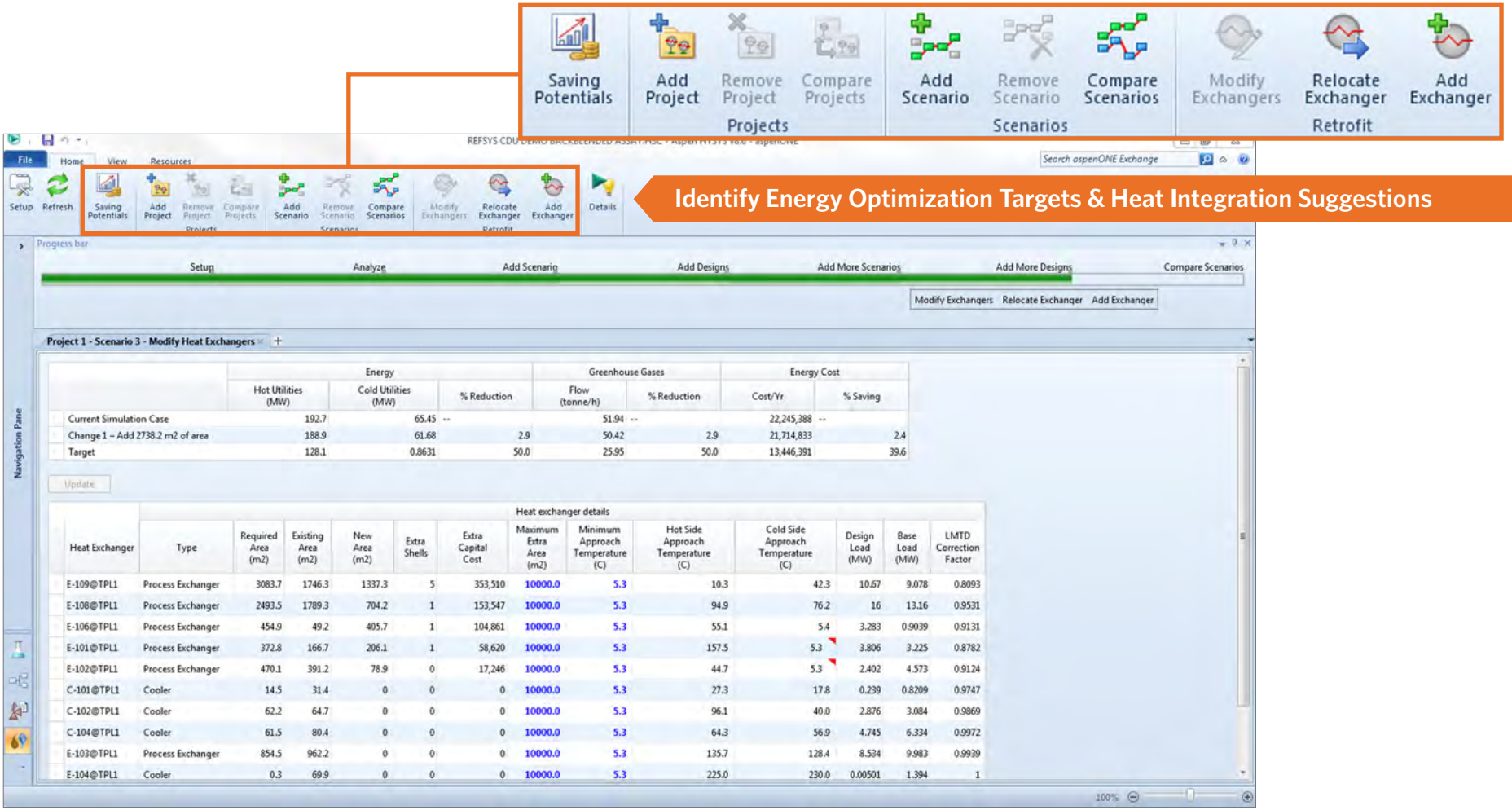
The safety analysis environment, available in V8.3 and higher, is designed for performing and documenting overpressure protection analysis. In this environment, pressure relief devices can be properly sized while considering all of the necessary emergency scenarios to comply with safety regulations. Here, the flowsheet is frozen and only tools used for overpressure protection are available.

For more information, visit the Relief Sizing pages of this eBook.

Work-Oriented Environments

Find What You Need in Less Time in Task-Specific Environments

Energy Analysis Environment

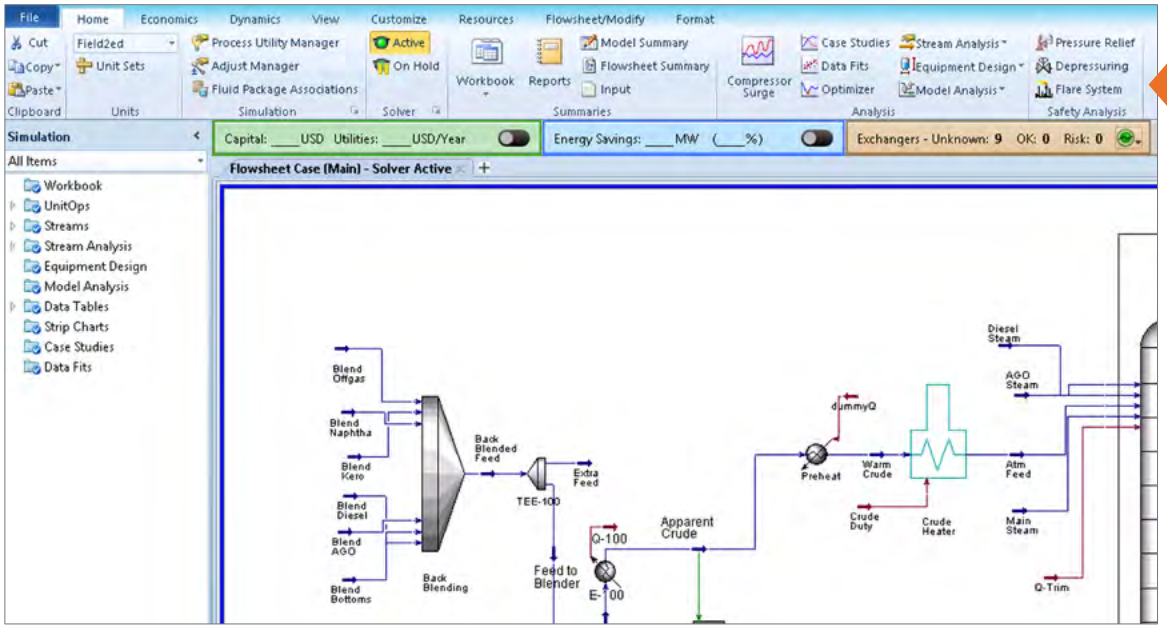


The energy analysis environment in Aspen HYSYS is used to optimize the supply and demand of utilities in the process flowsheet. This environment shows tools for measuring energy savings potentials, heat integration suggestions, and testing different scenarios.

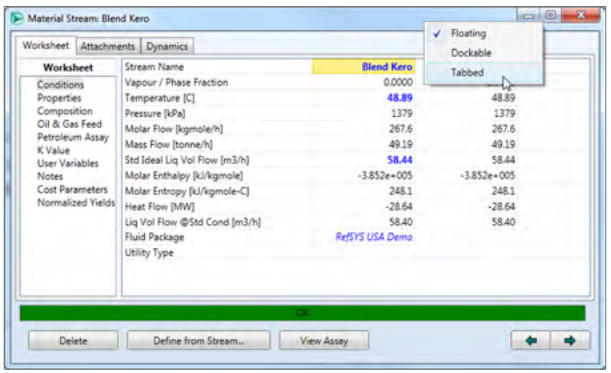
Customizable Workspaces and Flowsheets

Customize Your Workspace More Easily

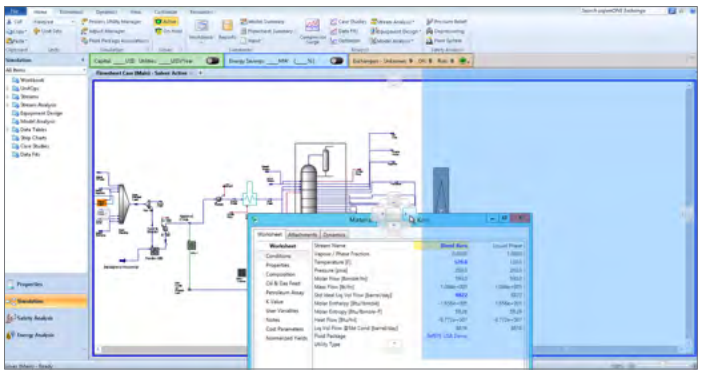
Building the Model



Ribbon with Tools to Build a Flowsheet



Forms can be floating, docked or tabbed.

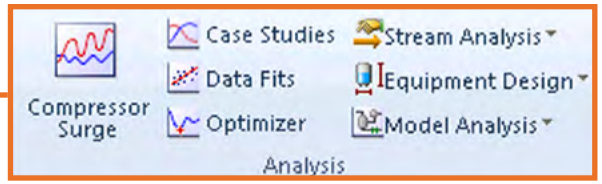


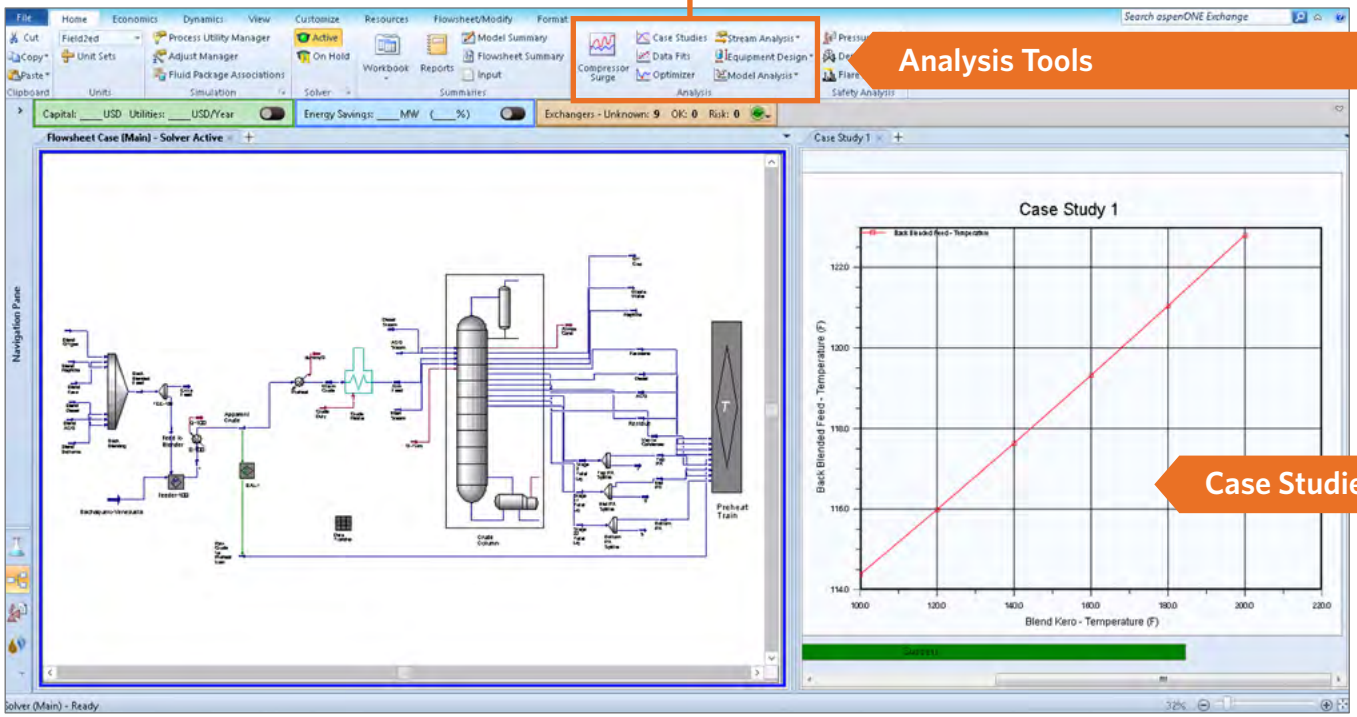
Docked forms autosize to fit the screen and are easily rearranged.

Customizable Workspaces and Flowsheets

Customize Your Workspace More Easily

Analyzing the Model





Analysis Tools

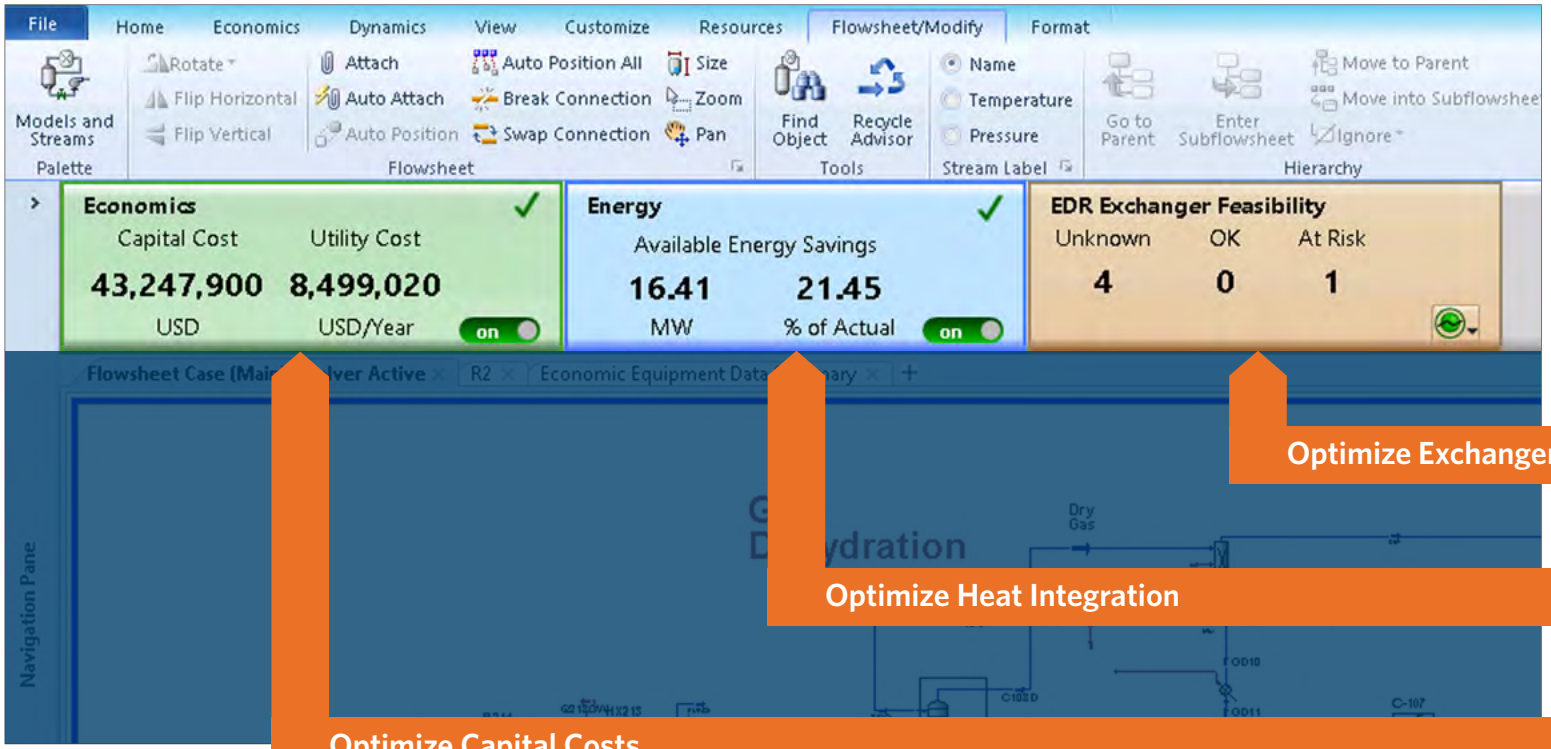
Case Studies

Once a model has calculated results, you can change your workspace to easily conduct case studies. Quickly and easily drag and drop or copy and paste variables from other forms to input variables and perform analysis.

Customizable Workspaces and Flowsheets

Customize Your Workspace More Easily

Optimization



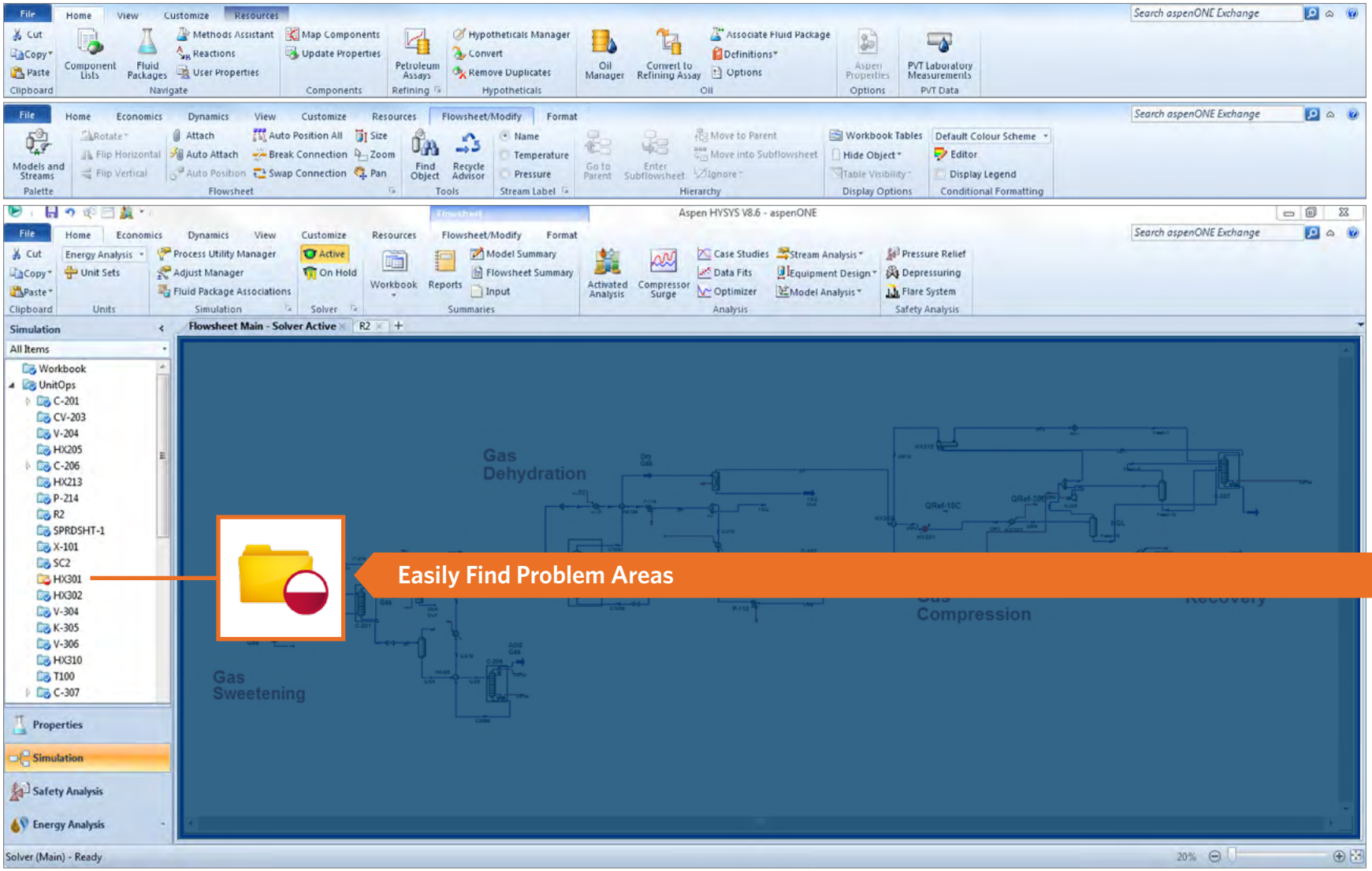
The integration between Aspen HYSYS and Aspen Energy Analyzer, Aspen Process Economic Analyzer, and Aspen Exchanger Design & Rating has been made seamless.

Learn more about Activated Energy, Activated Economics, and Activated Exchanger Design & Rating.

Intuitiveness

Easier to Navigate and Find Things with Ribbons

Follow the Ribbons Left to Right



New Innovations

Optimize process design and operations with new innovations and built-in training

Version Comparison Chart

Aspen HYSYS—New Feature Availability

Newly Introduced Features	V7.3	V8.4	V8.6	V8.8
Conceptual Design Builder	✓	✓	✓	✓
Rigorous Plate Fin Heat Exchanger Models	✓	✓+	✓+	✓+
Rigorous Fired Heater Models	✓	✓+	✓+	✓+
Relief Sizing		✓	✓+	✓+
Acid Gas Cleaning		✓	✓	✓
Aspen Assay Management		✓	✓	✓
Delayed Coker Model		✓	✓	✓
Visbreaker Model		✓	✓	✓
Automated Recycle Advisor		✓	✓	✓
Configure & Export to Aspen Simulation Workbook		✓	✓	✓
Activated Dynamics			✓	✓+
Activated Economics		✓	✓	✓+
Activated Exchanger Design & Rating		✓	✓	✓+
Activated Energy		✓	✓	✓+
Plant View		✓	✓	✓
aspenONE Exchange		✓	✓	✓
E-Learning			✓	✓
aspenONE Drive				✓
Methanol Partitioning				✓
Naphtha Hydrotreater Model				✓
CatGas Hydrotreater Model				✓
Alkylation Unit Model				✓
Access to HTFS Research Network				✓

+ This feature has been enhanced.

Relief Sizing

Streamline Your Safety Analysis Workflow with Simulation and Integrated Relief-Sizing Tools

Properly designed and documented overpressure protection systems are vital to ensuring process safety, as well as regulatory compliance. With the new capabilities introduced in Aspen HYSYS, we've streamlined the work process and created an optimal solution for designing, evaluating, and documenting pressure safety devices, including pressure relief valves and rupture disks—according to industry standard regulations.

The safety analysis environment in Aspen HYSYS allows users to work in combination with the simulation by taking an existing process flowsheet, calculating relief loads (per API 521), and then sizing pressure safety valves (per API 520) without any manual data transfer. This streamlines relief-sizing analysis eliminating work in any external third party tools. Prior to the new Aspen HYSYS solution, relief-sizing workflows demanded the use of the Aspen HYSYS simulator for process flows and physical properties and additional tools to complete relief-sizing calculations, flare network design and rating, and documentation.

As a result, designing overpressure protection systems was a process that was grossly inefficient and prone to data transcription errors and as a result, required 50% more time than the Aspen HYSYS solution, according to Hunt, Guillot, & Associates.

With Aspen HYSYS and the new relief-sizing capabilities, you can:

- Calculate relief loads per API 521
- Rigorously determine fire, exchanger tube rupture, and control valve failure relief loads **
- Size inlet and outlet lines
- Automatically import relief sizing results into Aspen Flare System Analyzer
- Document pressure relief devices
- Design overpressure protection systems for low pressure tanks per API 2000 7e *
- Perform multiple valve analysis *
- Analyze independent rupture disks *

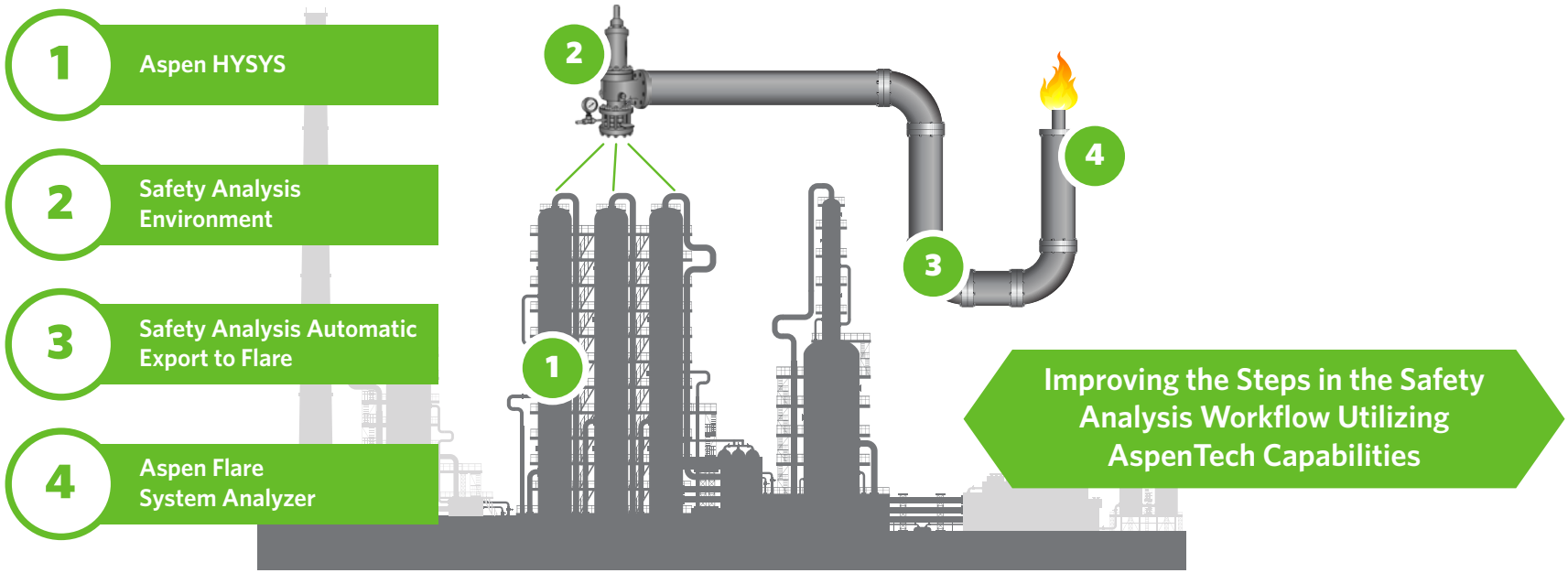
* Requires Aspen HYSYS V8.6

** Requires Aspen HYSYS V8.8

Relief Sizing

Streamline Your Safety Analysis Workflow with Simulation and Integrated Relief-Sizing Tools

Take a look at the ways AspenTech improves your safety workflow.



Resources

Jump Start Guides

- Relief Sizing in Aspen HYSYS and Aspen Plus V8.6
- Fire Overpressure Protection in Aspen HYSYS and Aspen Plus
- Multiple Valve Analysis in Aspen HYSYS and Aspen Plus
- Storage Tank Protection in Aspen HYSYS and Aspen Plus

Case Study

- Hunt, Guillot & Associates

On-Demand Webinar

- Improve FEED and Revalidation Projects with Relief Sizing in Aspen HYSYS

Videos

- Introduction to Relief Sizing in Aspen HYSYS
- Line Sizing in Aspen HYSYS
- Transferring Relief Sizing Results to Aspen Flare System Analyzer
- Documentation Builder for Relief Sizing in Aspen HYSYS
- Improvements in Process Safety in Aspen HYSYS V8.8

Acid Gas Cleaning

Optimize the Entire Gas-Processing Facility within One Simulator

The acid gas modeling capability completes the offering for modeling all parts of a gas processing facility, giving Aspen HYSYS users the ability to examine an entire gas plant or refining process to further optimize design and performance.

Acid Gas Cleaning, introduced in Aspen HYSYS V8.3, brings together the expertise from Aspen HYSYS in rate-based column modeling technology and industry proven electrolyte thermodynamics and physical properties from Aspen Properties. Additionally, in Aspen HYSYS V8.6, you can model acid gas removal using a physical solvent (DEPG), take into account ammonia contamination, and model gas treating processes that are using phosphoric acid as a stripping promoter.

Learn more about Acid Gas Cleaning in Aspen HYSYS with the two white papers that comprehensively cover the underlying technology and the data validation of Acid Gas Cleaning.

- Acid Gas Cleaning using Amine Solvents: Validation with Experimental and Plant Data

- Acid Gas Cleaning using DEPG Physical Solvent: Validation with Experimental and Plant Data

In V8.8, you have an option to convert a HYSYS case which includes a DBR Amine fluid package or an Amines Pkg fluid package, to the new Acid Gas package for gas treating. The old case is saved as a backup and a report is produced, informing the user about any warnings or errors that occurred during the conversion.

Resources

Jump Start Guide

- Acid Gas HYSYS

Video

- Acid Gas Cleaning in Aspen HYSYS V8.3

On-Demand Webinar

- Optimize Acid Gas Cleaning with Aspen HYSYS

Methanol Partitioning

Meet Environmental Regulations and Perform Economical Flow Assurance

Ensure regulatory compliance and facilitate plant permit acquisition using gas processing software. With the addition of the Cubic-Plus-Association (CPA) equation of state (in V8.8), you can achieve improved accuracy when performing methanol partitioning within Aspen HYSYS.

CPA fluid package is also compatible with the newly enhanced Hydrate Formation Utility, which now computes the amount of inhibitor needed for hydrate suppression.

Resources

Video

- Methanol Partitioning in Aspen HYSYS V8.8

Assay Management

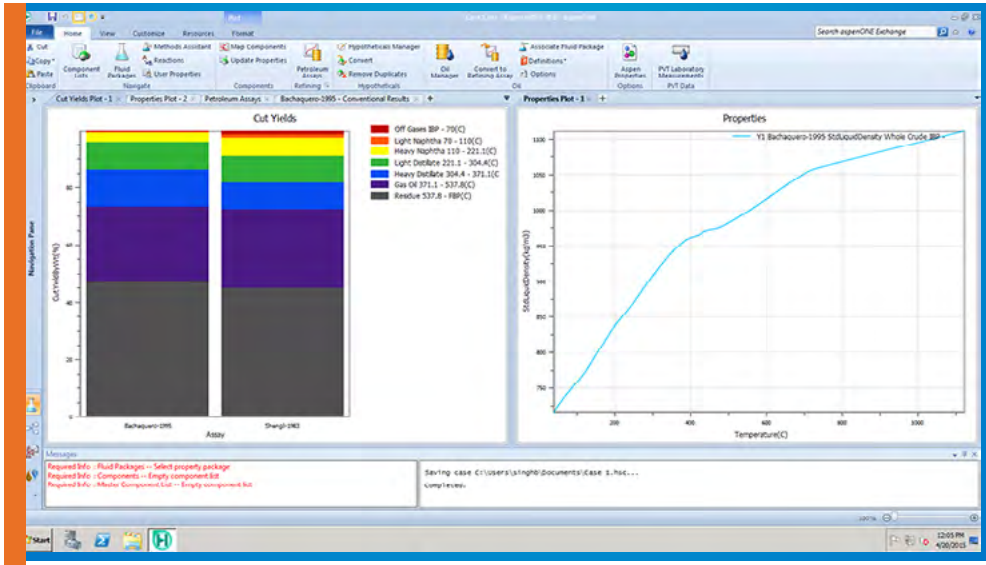
Characterize and Analyze Crude Assay Data with Breakthrough Assay Management Technology

Assay management is the foundation of accurate refinery modeling. Introduced in Aspen HYSYS Petroleum Refining V8.4, the new assay management capabilities allow users to utilize the same assay library and evaluation tools previously only available to planners and schedulers using Aspen PIMS™. The new integration makes crude characterization and management consistent across engineering and planning disciplines, allowing for greater optimization opportunities, including optimizing crude selection by easily evaluating the feasibility of opportunity crudes.

Assay Management in Aspen HYSYS allows users to:

- Access more than 1,000 assays with the new assay library, and easily import assay data from any other source
- Predict over 140 petroleum properties such as cloud point, pour point, sulfur content, and more
- Utilize consistent assays between Aspen HYSYS Petroleum Refining and Aspen PIMS for improved decision making
- Get more accurate results for crude modeling using the improved characterization and property calculations of Aspen Assay Management
- Access molecular characterization method in addition to traditional characterization methods

These features are now part of Aspen HYSYS Petroleum Refining, allowing users to seamlessly integrate it with existing Aspen HYSYS models for refinery simulation, as well as the planning capabilities of Aspen PIMS.



Resources

Jump Start Guide

- Assay Management in Aspen HYSYS Petroleum Refining

Video

- Assays in Aspen HYSYS Petroleum Refining V8.4

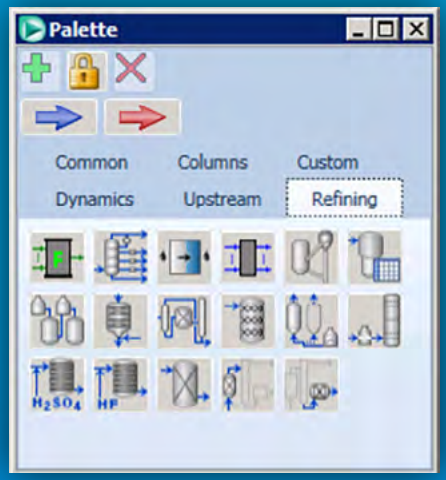
Refinery Reactor Models

Improve Refinery Profits with Rigorous Models for All of your Reactor Units

Aspen HYSYS now has a complete suite of reactor models for designing and optimizing refineries. With these new refinery reactor models and the new Assay Management capabilities, it's never been easier to debottleneck crude processing operations and optimize product yield and product specifications using Aspen HYSYS with Aspen HYSYS Petroleum Refining. These models can also be used to update Aspen PIMS planning submodels for improved optimization.

Now Aspen HYSYS Petroleum Refining can model the following reactors:

- Fluid Catalytic Crackers
- Hydrocrackers
- Hydrotreaters
- Reformers
- Isomerization Units
- New in V8.4! Visbreakers
- New in V8.4! Delayed Cokers
- New in V8.8! Naphtha Hydrotreaters
- New in V8.8! CatGas Hydrotreaters
- New in V8.8! Alkylation Units



Resources

Jump Start Guides

- Delayed Coker
- Visbreaker Model

Video

- What's New in Aspen HYSYS Petroleum Refining

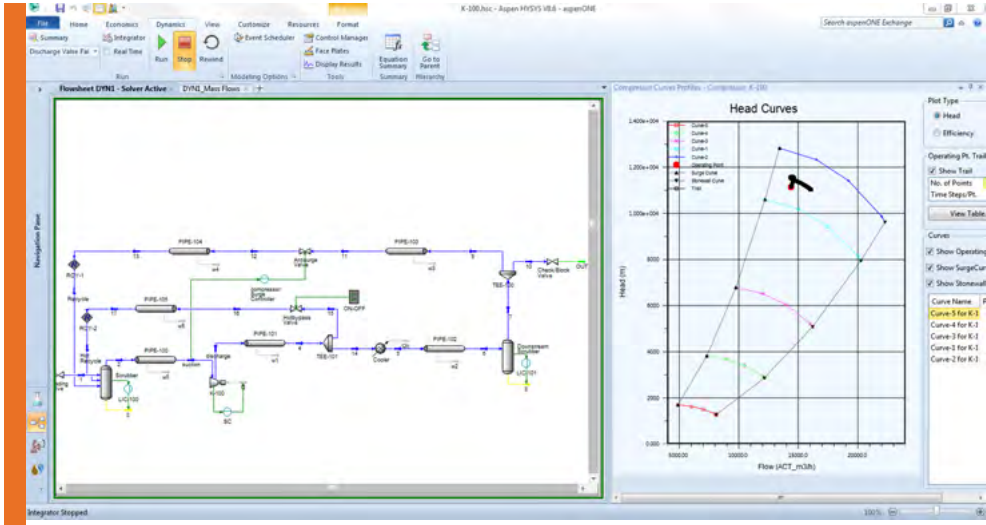
Activated Dynamics

Optimize the Design & Operation of Compressors

Introduced in Aspen HYSYS V8.6, Activated Dynamics drastically reduces the time and expertise required to study compressors using dynamic simulation. With Activated Dynamics, you can analyze dynamic behavior and easily troubleshoot potential operational problems, creating safer operating conditions.

Activated Dynamics will automatically create the following, based on your steady-state model:

- A dynamic subflowsheet
- Scenarios for frequently analyzed emergency situations
- Results forms with strip charts and compressor curves



Resources

Video

- Improving Compressor Performance with Activated Dynamics in Aspen HYSYS V8.6

Jump Start Guide

- Getting Started with Compressor Modeling in Aspen HYSYS Dynamics

On-Demand Webinar

- Analyze and Troubleshoot Compressor Systems Easily with Activated Dynamics

Activated Economics

Instantly See the Economic Impact of Process Design Decisions

Activated Economics was introduced in Aspen HYSYS V8.0. With Activated Economics, Aspen HYSYS users can make more informed process design decisions based on process economics. Users can easily compare multiple process schema or optimize an existing design for capital and operating costs using rigorous, model-based cost estimates formulated using the same methodology as Cost Estimators using Aspen Economic Evaluation products.

With Activated Economics, Aspen HYSYS users can better collaborate with Cost Estimating teams via templates for Activated Economics, as well as an .izp file created by Activated Economics that can be passed to a Cost Estimator and opened in Aspen Capital Cost Estimator or Aspen In-Plant Cost Estimator. Templates capture important information such as a company's sizing or design standards, project related information such as location, and indexing data. Activated Economics improves collaboration, resulting in capital optimized process designs that maximize capital ROI.

Resources

Jump Start Guide

- Activated Economics in Aspen HYSYS

On-Demand Webinar

- Make Informed Process Design Decisions with Activated Economics

Activated EDR

Save on CAPEX & OPEX by Improving Fidelity of Process Simulations Using Rigorous Heat Exchanger Models

Users achieve considerable savings on Energy, CAPEX and OPEX from high fidelity process simulations developed using rigorous heat exchanger models. Activated EDR enables process engineers to easily convert simple heat exchanger models in their Aspen HYSYS flow sheets, to rigorous models without leaving the simulator. If the exchanger geometry is known the user can type in the details and generate a rigorous model, else the user can get Aspen HYSYS to generate a preliminary rigorous heat exchanger model based on the lowest cost.

Activated EDR is used to:

- Improve fidelity of process simulation models and capture savings on Energy, CAPEX and OPEX.
- Avoid costly operational problems by identifying potential Operational Risks early on in the design process. With Activated EDR, operational risks such as excessive pressure drop, flow induced vibration, erosion etc., are clearly flagged on the flowsheet.
- Improve plant capacity by identifying heat exchanger bottlenecks. Rigorous heat exchanger models accurately predict the impact of changing process conditions on heat exchanger operation.
- Reduce Design time by enabling process engineers to export the Preliminary Heat Exchanger model developed into an Aspen EDR file and handing it over to Heat Exchanger specialist for final design. This avoids time lost in manual data transfer.
- Improve design accuracy by maintaining consistency in Process and Properties data used between the process simulator and heat exchanger design programs. Absence of any manual data transfer avoids chances for transcription errors.

Following Heat Exchanger types are supported in Aspen HYSYS: Shell & Tube, Air Cooled, Plate Fin and Fired Heaters.

"The rigorous Aspen Exchanger Design & Rating models available within Aspen HYSYS have enabled us to solve debottlenecking problems in a way not otherwise achievable."
Lakshmi Venkatesh, Deputy General Manager of Process Engineering, Petrofac Ltd.

Resources

Jump Start Guides

- Jump Start with Activated EDR in Aspen HYSYS

Videos

- Activated EDR in Aspen HYSYS
- Specifying Heat Exchanger Geometry in Aspen HYSYS
- HTFS Research Reports

Activated Energy

Find Real Solutions to Optimize the Supply and Demand of Energy in your Process

Creating energy efficient processes requires an optimal supply of utilities, in addition to well integrated heat exchanger networks. Finding this optimal solution traditionally has been a very difficult task that required expertise.

With Activated Energy, introduced in Aspen HYSYS V8.0, users now have the ability access rigorous pinch technology, powered by Aspen Energy Analyzer, from within the process simulator. Activated Energy eliminates time-consuming data transfer and significantly lowers the learning curve required to utilize rigorous pinch theory.

Activated Energy pulls data regarding utilities from the process flowsheet, as well as the *Process Utilities Manager*, to recommend the optimal supply of utilities for a process, based on utility costs and availability. Upon finding an optimal utility supply solution, Activated Energy looks at the heat integration network defined in the process flowsheet and recommends potential heat recovery solutions to increase efficiency, such as adding new heat exchangers, adding area to existing exchangers, or relocating exchangers to other areas of the process.

Activated Energy enables users to find and implement energy efficiency solutions fast and early on in the design process, and reduce the greenhouse gases of a process—all of this while considering the capital cost trade-offs of design changes.

Resources

Case Study

- LG Chem

Video

- Activated Energy in Aspen HYSYS

aspenONE Drive

Securely Share Aspen HYSYS Models on Your Company Network

aspenONE Drive in Aspen HYSYS allows model authors to upload and securely access their models (and those shared by other colleagues) from any device on the company network. Model authors can keep models private or share with specific colleagues and, if required, prevent the model from being downloaded thus protecting IP. Shared users receive an email containing a link to the model on aspenONE Drive where they can securely search, download (if enabled) or view and run models from a web browser.

With aspenONE Drive you can:

- Improve user efficiency by enabling users to access Aspen HYSYS models SECURELY from any web enabled device. Users can search for simulation models, run 'what-if' scenarios, and compare simulation results with plant data, all from a web-browser. This way users can access their simulations even when they are away from their work desktops, while traveling, while attending business meetings, etc.
- Enable anyone to take advantage of simulation models. aspenONE web interface enables users who are not conversant with Aspen HYSYS to make use of simulation models.
- Leverage simulation assets better by enabling users to search and find simulation models located anywhere in the company network. This way aspenONE Drive acts as a central repository of simulation models available within the company.
- Troubleshoot plant operations by comparing simulation results and plant data side by side. aspenONE web interface allows users to view live or historical plant data alongside simulation results on the model flowsheet.

Resources

Video

- Introducing aspenONE Drive

aspenONE Exchange, E-Learning, Online Training

Tap into the Process Industry's First Content Marketplace

With aspenONE Exchange, you can access context-sensitive content such as example files, training materials, and equipment selection tools from within Aspen HYSYS. Whether you need training or a sample model to get started on a new process, you are looking for a solution to overcome a difficult design problem, or you want equipment specification information to incorporate into your flowsheet, you can easily search and find relevant materials including Computer Based Trainings (CBTs), Jump Start Guides, example models, video tutorials, and blogs from the AspenTech Community—all without leaving the Aspen HYSYS user interface.

More interested in browsing related topics rather than searching? With E-Learning in Aspen HYSYS, you can browse carefully curated content organized by topic. Topics include compressors, economic analysis, pressure relief analysis, heat exchanger design and rating, and more!

Resources

Brochure

- aspenONE Exchange

Jump Start Guide

- Getting Started with aspenONE Exchange

Videos

- Overview of aspenONE Exchange
- Introduction to aspenONE Exchange for Developers
- Find Flowsheets in aspenONE Exchange
- Finding Pump Curves from Pump-Flo in aspenONE Exchange
- Finding Training in aspenONE Exchange

Aspen Version Comparison Assistant

Reduce Deployment Time for Aspen HYSYS

The Aspen Version Comparison Assistant is a powerful tool that helps you validate a new version of Aspen HYSYS quickly and easily. The Aspen Version Comparison Assistant will run the same Aspen HYSYS file in a newer version of the software, as well as the older version, and then create a detailed report outlining differences in model results—including an explanation of why the results may have varied—in just a few minutes.

Historically, the process of validating a newer version of Aspen HYSYS was long and difficult. Different versions have the potential to yield different results, making upgrading in the middle of a project a risky proposition; however, with the Aspen Version Comparison Assistant you can quickly and reliably validate models in newer versions of Aspen HYSYS, saving significant engineering time.

View the test file result details on the next page.

Resources

Brochure

- Version Comparison Assistant

Test Case Certificates

- Aspen Plus and Aspen HYSYS V8.4 Test Case Certificates *
- Aspen Plus and Aspen HYSYS V8.6 Test Case Certificates *

Video

- Version Comparison Assistant

* Case Certificates require AspenTech Customer Support Website Login Credentials

Aspen Version Comparison Assistant

Test File Comparison Results Detail

Model/File = Biodiesel production from vegetable oil.bkp
Date V7.3 Run / Status = January 22, 2013 / Simulation Successful

Date V8.0 Run / Status = January 22, 2013 / Simulation Successful
Differences = 19

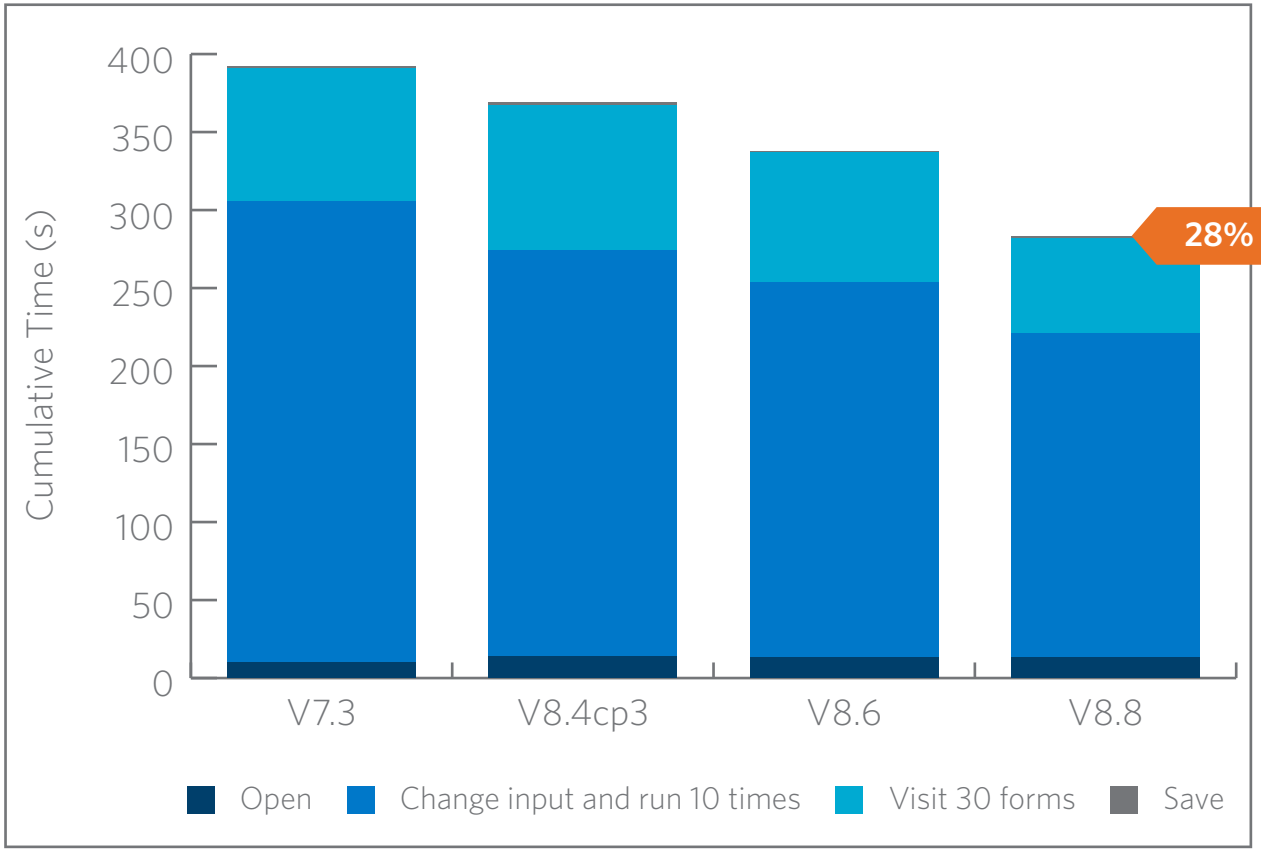
Stream	SubStream	Variables	V7.3	V8.0	Unit	Difference	Above Tolerance
1	1.MIXED	Flow	38.2678	39.9557	kg/hr	4.410707%	Yes
1	1.MIXED	Composition.1-O	0.175734	0.172424		0.0033097	Yes
1	1.MIXED	Composition.1-P	0.127533	0.130262		0.00272904	Yes
1	1.MIXED	Composition.METHYL-O	0.0333395	0.0348792		0.00153972	Yes
2	2.MIXED	Flow	1088.27	1089.96	kg/hr	0.155098%	Yes
EST1	EST1.MIXED	Flow	1265.37	1267.06	kg/hr	0.134167%	Yes
EST2	EST2.MIXED	Flow	1265.37	1267.06	kg/hr	0.134167%	Yes
EST3	EST3.MIXED	Flow	1265.37	1267.06	kg/hr	0.134167%	Yes
EST4	EST4.MIXED	Flow	1094.93	1096.63	kg/hr	0.155091%	Yes
MEOHREC	MEOHREC.MIXED	Flow	122.425	122.587	kg/hr	0.132228%	Yes
MEOHWAT	MEOHWAT.MIXED	Flow	4.83106	4.8441	kg/hr	0.269950%	Yes
OIL2	OIL2.MIXED	Temperature	24.91	25.3983	C	0.488276	Yes
OIL2	OIL2.MIXED	Flow	1088.27	1089.96	kg/hr	0.155098%	Yes
OIL3	OIL3.MIXED	Flow	1088.27	1089.96	kg/hr	0.155098%	Yes
OILREC	OILREC.MIXED	Flow	38.2678	39.9557	kg/hr	4.410707%	Yes
OILREC	OILREC.MIXED	Composition.1-O	0.175734	0.172424		0.0033097	Yes
OILREC	OILREC.MIXED	Composition.1-P	0.127533	0.130262		0.00272904	Yes
OILREC	OILREC.MIXED	Composition.METHYL-O	0.0333395	0.0348792		0.00153972	Yes
REACOUT	REACOUT.MIXED	Flow	1387.79	1389.65	kg/hr	0.134021%	Yes

Comment: Differences are due to a correction of the density calculations in V8.0. V7.3 was overestimating a density for the long chain hydrocarbons. This affected the reactor concentrations and reduced conversion of the oil, resulting in a larger oil recycle. The V8.0 results are better than the V7.3 ones.

Performance

Work more efficiently

Overall Aspen HYSYS Performance

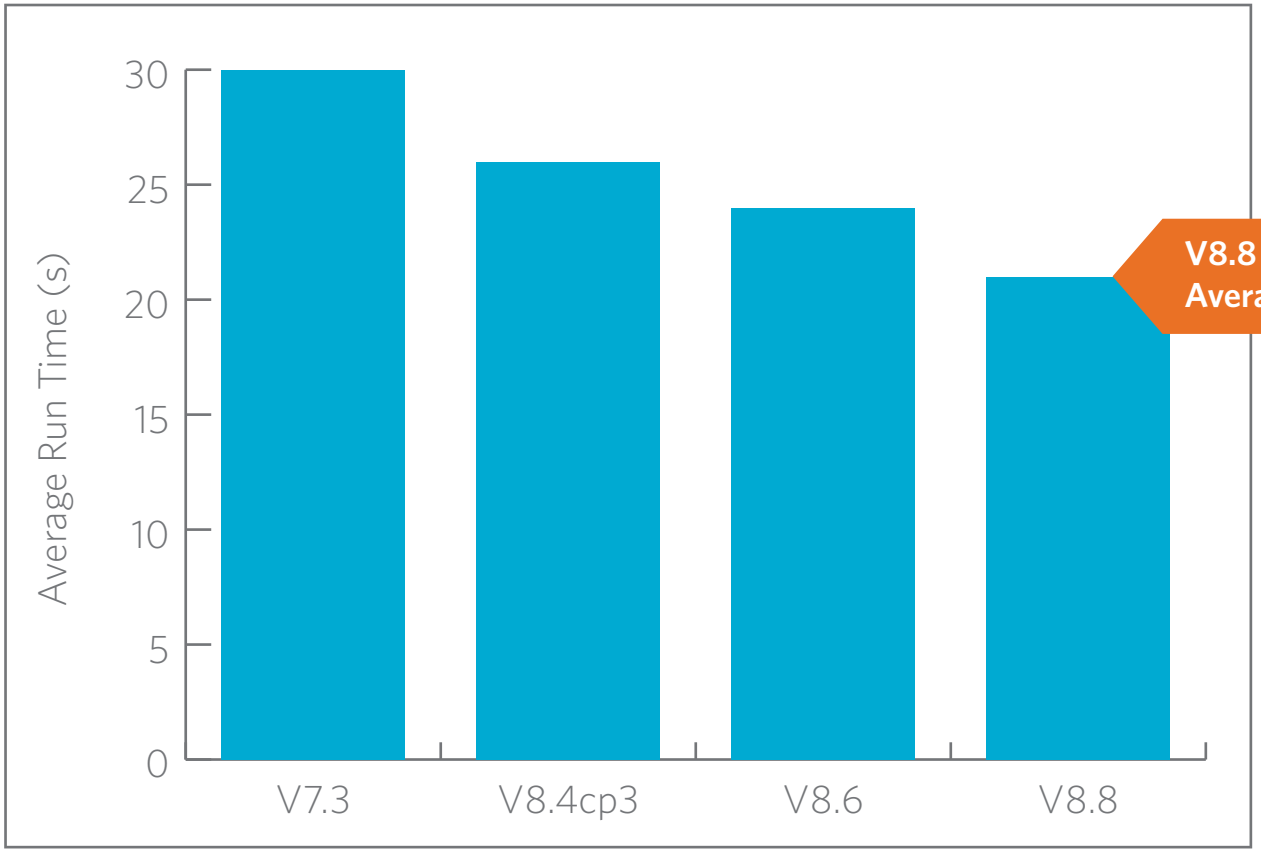


28% Faster than V7.3 on Average

Workflow Step	V7.3	V8.4cp3	V8.6	V8.8
Open	10	14	13	13
Change input and run 10 times	296	260	241	208
Visit 30 forms	85	93	83	61
Save	1	2	1	1
Net time	391	367	337	282
Performance index (lower is faster)	100%	94%	86%	72%

Aspen HYSYS Performance

Steady-State Simulation Run Time

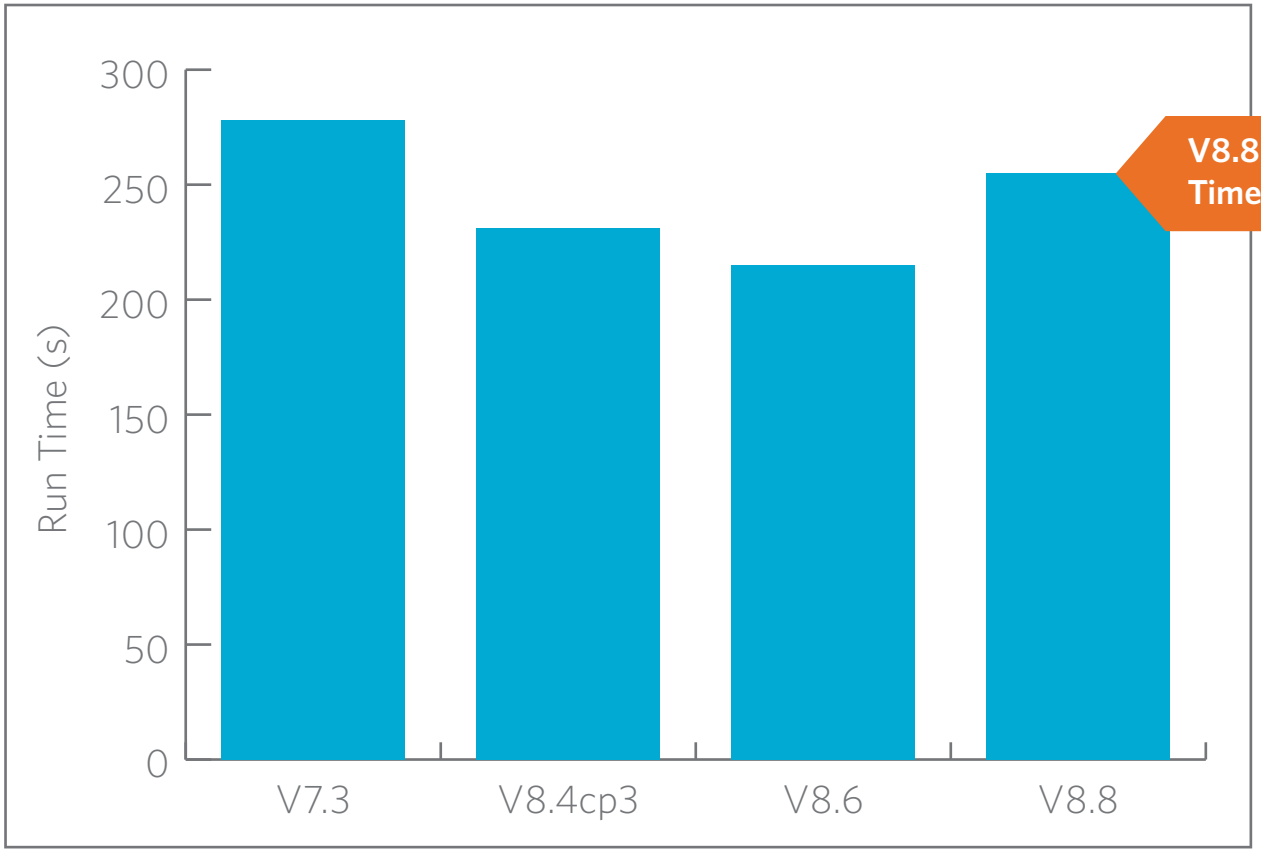


V8.8 is 30% Faster than V7.3, an Average Time Savings of 9 Seconds/Run

The speed tests were run using Aspen HYSYS, Aspen HYSYS Upstream, and Aspen HYSYS Petroleum Refining cases.

Aspen HYSYS Performance

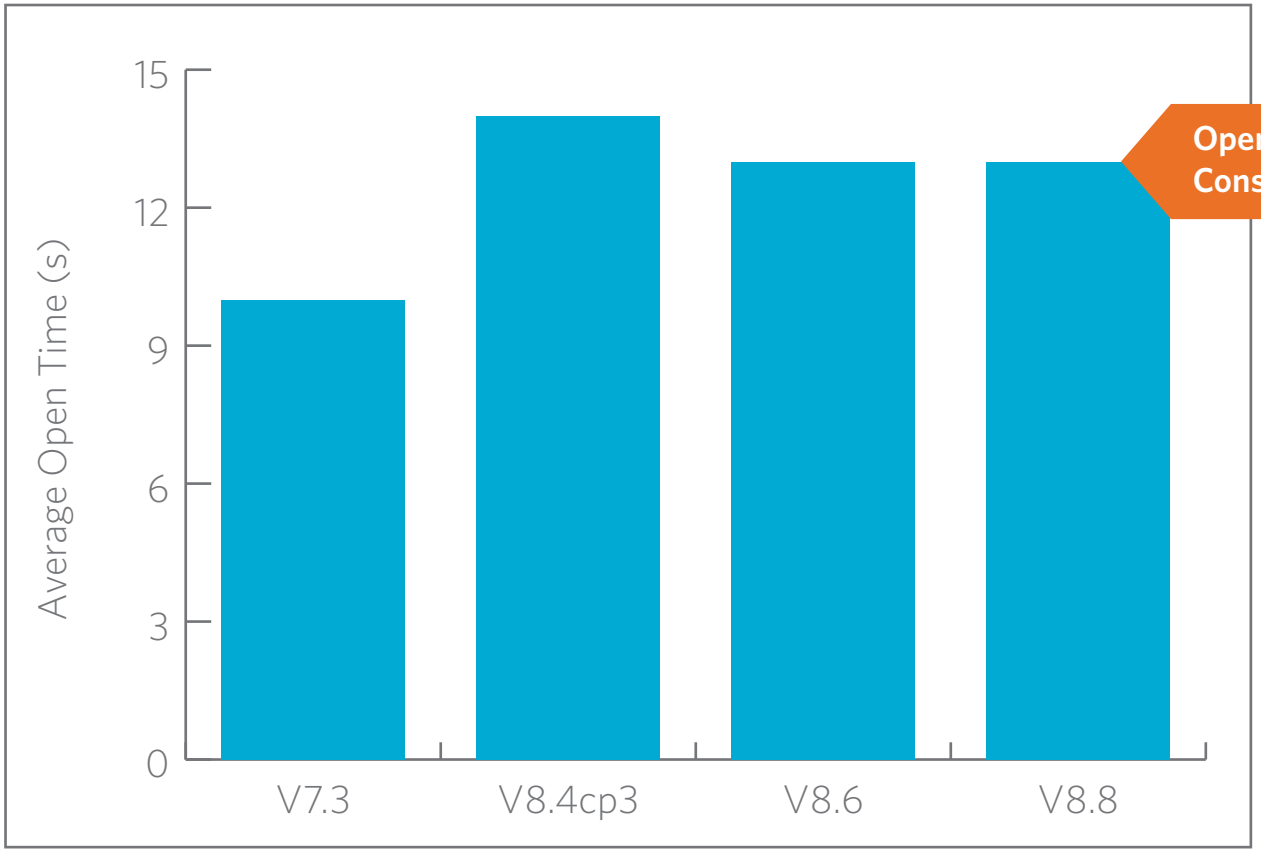
Dynamic Simulation Run Time



V8.8 is 9% Faster than V7.3, an Average Time Savings of 23 Seconds/Run

Aspen HYSYS Performance

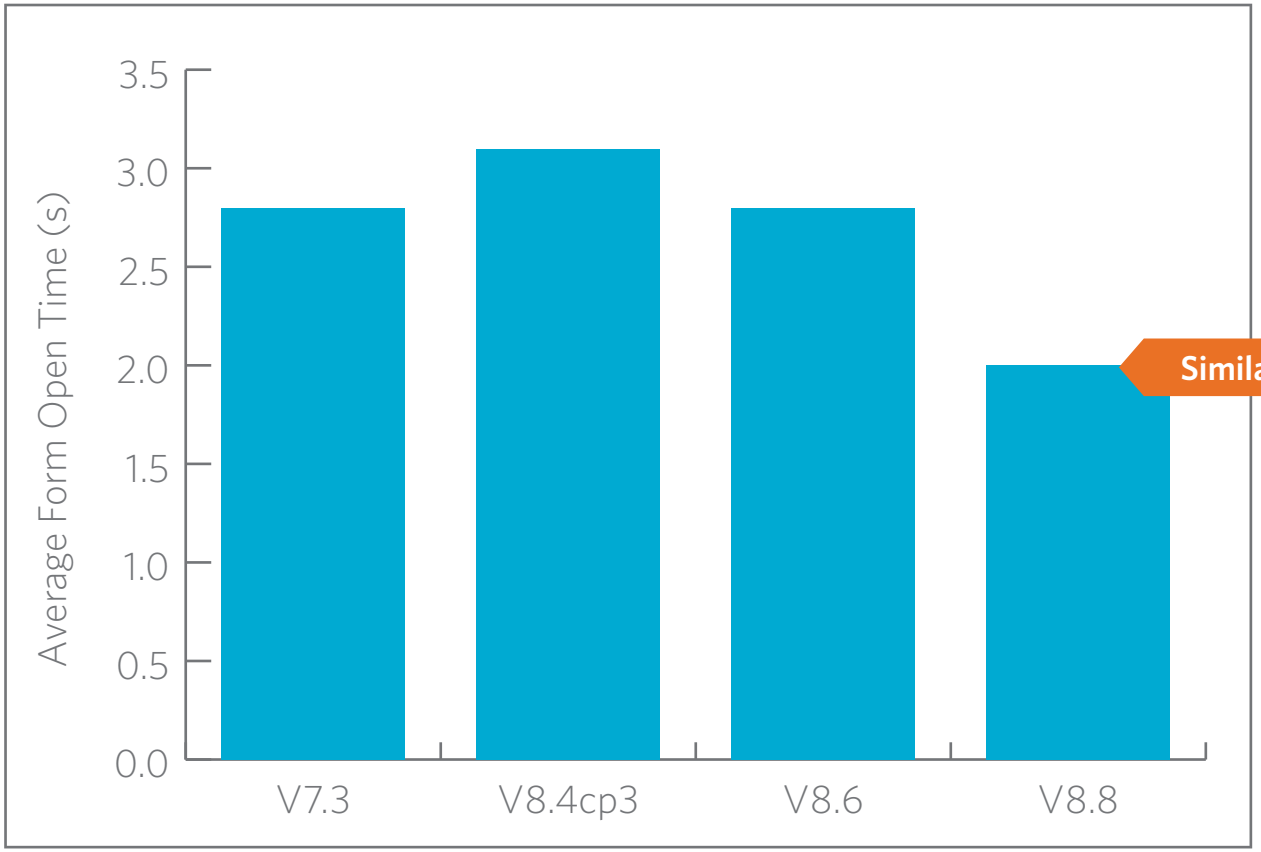
File Open Time



Opening Files in V8.8 is 24% Slower than V7.3, Consuming on Average an Extra 3 Seconds

Aspen HYSYS Performance

General Form Open Time - Averaged



Similar Performance V7.3 – V8.X

Composite of 3 commonly used large grid forms.
Measurement precision +/- 0.5 seconds.

Getting Started Materials

Get up to speed on the new user interface, new innovations in less time

Aspen HYSYS Migration Training

Ensure a Smooth Transition from V7.3 to V8

Interested in getting up to speed on the new Aspen HYSYS V8 with expert AspenTech instructors? Take part in a one day course where an instructor will take you through demonstrations of how to use the new user interface and many of the new features, and then guide you through exercises to apply learned concepts.

Resources

On-Demand Webinar

- How to Navigate and Customize Aspen HYSYS V8
- Convert from Aspen HYSYS or Aspen Plus V7.3 to V8 in Less than 30 Minutes

Learn More

- Aspen HYSYS V8 Migration Course

Getting Started for New Users

University Teaching Modules

Get your new users up to speed in less time with our University Teaching Modules. AspenTech worked with leading universities to develop teaching materials to get new process engineers started with Aspen HYSYS in less time. Topics in the teaching modules include: the essentials of process design, how to model distillation columns, how to convert a steady-state simulation to dynamic, material and heat balance problems, and more!

Computer Based Trainings

Available within Aspen HYSYS in aspenONE Exchange. Simply search for 'Computer Based Training' to find the broad range of available topics. Computer Based Trainings are deep dives into product functionality, as well as industry training. Topics include, but are not limited to:

- Getting Started with Aspen HYSYS V8
- Getting Started with Aspen HYSYS Petroleum Refining
- Getting Started with Aspen HYSYS Dynamics
- Getting Started with Acid Gas Cleaning
- Rigorous Heat Exchanger Modeling in Aspen HYSYS
- Getting Started with Pressure Relief Valve Sizing
- Getting Started with Aspen Simulation Workbook

Resources

Brochure

- Aspen HYSYS Teaching Modules

Getting Started with New Innovations

Resources

Relief Sizing
- Jump Start with Relief Sizing in Aspen HYSYS
- Jump Start with Fire Overpressure Protection in Aspen HYSYS
- Jump Start with Multiple Valve Analysis in Aspen HYSYS
- Jump Start with Storage Tank Protection in Aspen HYSYS

Acid Gas Cleaning
- Jump Start with Acid Gas Cleaning in Aspen HYSYS

Assay Management
- Jump Start with Assay Management in Aspen HYSYS Petroleum Refining

Visbreaker Reactor Model
- Jump Start with the Visbreaker Model in Aspen HYSYS Petroleum Refining

Delayed Coker Reactor Model
- Jump Start with the Delayed Coker Model in Aspen HYSYS Petroleum Refining

Activated Dynamics
- Jump Start with Compressor Modeling in Aspen HYSYS Dynamics

Activated Economics
- Jump Start with Activated Economics in Aspen HYSYS

Activated Exchanger Design & Rating
- Jump Start with Activated Exchanger Design & Rating in Aspen HYSYS

Activated Energy
- Jump Start with Activated Energy
- Prepare a Flowsheet for Energy Analysis in Aspen HYSYS

aspenONE Web & Mobile Interface
- Jump Start with aspenONE Web and Mobile *

Aspen Simulation Workbook
- Jump Start with Aspen Simulation Workbook in Aspen HYSYS

* This document requires an AspenTech Support account

IT Solutions

Enjoy a simplified installation process

Requesting Upgrades, Obtaining Media & Licenses

Upgrade Requests

Requesting an upgrade for the aspenONE Engineering suite of products is free for most companies. To request an upgrade, please visit the following support webpage.*
http://support.aspentech.com/webteamasp/My/FrameDef.asp?/webteamasp/LicenseKeys.asp

Obtaining Media

aspenONE Engineering is now available as an electronic software download! Join the more than 50% of AspenTech customers in obtaining your media digitally. Simply request an upgrade and select *Download* as the Media Type.

Interested in a DVD? We are still shipping DVDs, simply select DVD as your media type on the upgrade request form.

Obtaining Licenses

To request an AspenTech License Key for standalone licenses or network licenses, please visit the following support webpage.**
http://support.aspentech.com/webteamasp/My/FrameDef.asp?/webteamasp/LicenseKeys.asp

*Requesting software upgrades requires an AspenTech Support account

** Requesting AspenTech License Keys requires an AspenTech Support account

Aspen Version Comparison Assistant

Reduce Deployment Time for Aspen HYSYS

The Aspen Version Comparison Assistant is a powerful tool that helps you validate a new version of Aspen HYSYS quickly and easily. The Aspen Version Comparison Assistant will run the same Aspen HYSYS file in a newer version of the software, as well as the older version, and then create a detailed report outlining differences in model results—including an explanation of why the results may have varied—in just a few minutes.

Historically, the process of validating a newer version of Aspen HYSYS was long and difficult. Different versions have the potential to yield different results, making upgrading in the middle of a project a risky proposition; however, with the Aspen Version Comparison Assistant you can quickly and reliably validate models in newer versions of Aspen HYSYS, saving significant engineering time.

View the test file result details on the next page.

Resources

Brochure

- Version Comparison Assistant

Test Case Certificates

- Aspen Plus and Aspen HYSYS V8.4 Test Case Certificates *
- Aspen Plus and Aspen HYSYS V8.6 Test Case Certificates *

Video

- Version Comparison Assistant

* Case Certificates require AspenTech Customer Support Website Login Credentials

Aspen Version Comparison Assistant

Test File Comparison Results Detail

Model/File = Biodiesel production from vegetable oil.bkp
Date V7.3 Run / Status = January 22, 2013 / Simulation Successful

Date V8.0 Run / Status = January 22, 2013 / Simulation Successful
Differences = 19

Stream	SubStream	Variables	V7.3	V8.0	Unit	Difference	Above Tolerance
1	1.MIXED	Flow	38.2678	39.9557	kg/hr	4.410707%	Yes
1	1.MIXED	Composition.1-O	0.175734	0.172424		0.0033097	Yes
1	1.MIXED	Composition.1-P	0.127533	0.130262		0.00272904	Yes
1	1.MIXED	Composition.METHYL-O	0.0333395	0.0348792		0.00153972	Yes
2	2.MIXED	Flow	1088.27	1089.96	kg/hr	0.155098%	Yes
EST1	EST1.MIXED	Flow	1265.37	1267.06	kg/hr	0.134167%	Yes
EST2	EST2.MIXED	Flow	1265.37	1267.06	kg/hr	0.134167%	Yes
EST3	EST3.MIXED	Flow	1265.37	1267.06	kg/hr	0.134167%	Yes
EST4	EST4.MIXED	Flow	1094.93	1096.63	kg/hr	0.155091%	Yes
MEOHREC	MEOHREC.MIXED	Flow	122.425	122.587	kg/hr	0.132228%	Yes
MEOHWAT	MEOHWAT.MIXED	Flow	4.83106	4.8441	kg/hr	0.269950%	Yes
OIL2	OIL2.MIXED	Temperature	24.91	25.3983	C	0.488276	Yes
OIL2	OIL2.MIXED	Flow	1088.27	1089.96	kg/hr	0.155098%	Yes
OIL3	OIL3.MIXED	Flow	1088.27	1089.96	kg/hr	0.155098%	Yes
OILREC	OILREC.MIXED	Flow	38.2678	39.9557	kg/hr	4.410707%	Yes
OILREC	OILREC.MIXED	Composition.1-O	0.175734	0.172424		0.0033097	Yes
OILREC	OILREC.MIXED	Composition.1-P	0.127533	0.130262		0.00272904	Yes
OILREC	OILREC.MIXED	Composition.METHYL-O	0.0333395	0.0348792		0.00153972	Yes
REACOUT	REACOUT.MIXED	Flow	1387.79	1389.65	kg/hr	0.134021%	Yes

Comment: Differences are due to a correction of the density calculations in V8.0. V7.3 was overestimating a density for the long chain hydrocarbons. This affected the reactor concentrations and reduced conversion of the oil, resulting in a larger oil recycle. The V8.0 results are better than the V7.3 ones.

aspenONE Engineering V8.4 Software Requirements

Supported Platforms for aspenONE Engineering V8.4

Supported Operating Systems	Windows 8 Professional and Enterprise (64-bit) Windows 7 Professional and Enterprise (32- and 64-bit) *Aspen Plus Refinery Reactors and Process Manuals do not support Windows 8.*
Supported Web Browsers	Internet Explorer 8, 9 or 10 Google Chrome 26 and higher *(Only supported for aspenONE Web Client use)*
Supported Microsoft Office	Microsoft Office 2010 SP1 or 2013 *(Except Aspen Plus Refinery Reactors)* *ABE only supports Office 2010 SP1, not Office 2013*
Required Runtimes	.NET Framework 4.5 .NET Framework 3.5 Flash 10 *(Required for Exchange training videos)* Java JRE 1.6 *(Only required for Economic Evaluation)* Visual Studio Tools for Office 2010 *(Required for Aspen Batch Process Developer)*
Supported Database Clients	Microsoft SQL Server Express 2012 SP1 Microsoft SQL Server Express 2008 R2 SP2
Supported Reporting Services	Crystal Reports 11 *(Only used by Economic Evaluation)*
SLM Server	Your Aspen SLM server must be installed and running prior to installing any V8.4 product.

aspenONE Engineering V8.4 Software Requirements

Supported Server Platforms for aspenONE Engineering V8.4

Supported Operating Systems	Windows Server 2012 Windows Server 2008 R2 SP1 *Aspen Plus Refinery Reactors and Process Manuals do not support Windows Server 2012.*
Required Runtimes	.NET Framework 4.5 .NET Framework 3.5 Java JDK 1.6 *(Only required for Economic Evaluation and aspenONE Web Server)* Flash 10 *(Required for Exchange training videos)*
Supported Database Servers	Microsoft SQL Server 2012 SP1 (Standard and Enterprise) Microsoft SQL Server 2008 R2 SP2 (Standard and Enterprise) Oracle Database 11.2.0.3 *(Only supported by ABE)* ** aspenONE Web Server also supports Express editions of these SQL servers.* ** EDR does not use database servers. Deploys its own Access DB files.*
Supported Web Servers	IIS 8.0 and 7.5 *(Only required for aspenONE Web Server and Process Manuals)*
Required Java App Servers	Apache Tomcat 7 *(Only required for aspenONE)*
Required Security Frameworks	Microsoft Active Directory/Domain Services *(Required for aspenONE Web Server)*
SLM Server	Your Aspen SLM server must be installed and running prior to installing any V8.4 product.

aspenONE Engineering V8.4 Minimum Hardware Requirements

Computer and Processor	Intel® Core™ 2 Duo 3.00GHz
Memory (RAM)	4 GB
Free Hard Disk Space	40 GB [Install size is 15 GB]
Note on Disk Space	aspenONE Engineering requires about 15 GB when all functionality is installed. Additional space may be required while installing, so 40 GB of free space is recommended. Additionally, programs generate temporary files that may occupy space depending on how you use the programs.

aspenONE Engineering V8.6 Software Requirements

Supported Desktop Platforms for aspenONE Engineering V8.6

Supported Operating Systems	Windows 8.1 Professional and Enterprise (64-bit) Windows 7 Professional and Enterprise (32- and 64-bit) *Aspen Plus Refinery Reactors and Process Manuals do not support Windows 8.1.*
Supported Web Browsers	Internet Explorer 9, 10 or 11 Google Chrome 26 and higher *(Only supported for aspenONE Web Client use)*
Supported Microsoft Office	Microsoft Office 2010 SP1 or 2013 *(Except Aspen Plus Refinery Reactors)* *ABE only supports Office 2010 SP1, not Office 2013*
Required Runtimes	.NET Framework 4.5 .NET Framework 3.5 Flash 10 *(Required for Exchange training videos)* Java JRE 1.6 *(Only required for Economic Evaluation)* Visual Studio Tools for Office 2010 *(Required for Aspen Batch Process Developer)*
Supported Database Clients	Microsoft SQL Server Express 2012 SP1 Microsoft SQL Server Express 2008 R2 SP2
Supported Reporting Services	Crystal Reports 11 *(Only used by Economic Evaluation)*
SLM Server	Your Aspen SLM server must be installed and running prior to installing any V8.6 product.

aspenONE Engineering V8.6 Software Requirements

Supported Server Platforms for aspenONE Engineering V8.6

Supported Operating Systems	Windows Server 2012 R2 Windows Server 2008 R2 SP1 *Aspen Plus Refinery Reactors and Process Manuals do not support Windows Server 2012 R2.*
Required Runtimes	.NET Framework 4.5 .NET Framework 3.5 Java JDK 1.6 *(Only required for Economic Evaluation and aspenONE Web Server)* Flash 10 *(Required for Exchange training videos)*
Supported Database Servers	Microsoft SQL Server 2012 SP1 (Standard and Enterprise) Microsoft SQL Server 2008 R2 SP2 (Standard and Enterprise) Oracle Database 11.2.0.3 *(Only supported by ABE)* ** aspenONE Web Server also supports Express editions of these SQL servers.* ** EDR does not use database servers. Deploys its own Access DB files.*
Supported Web Servers	IIS 8.5 and 7.5 *(Only required for aspenONE Web Server and Process Manuals)*
Required Java App Servers	Apache Tomcat 7 *(Only required for aspenONE)*
Required Security Frameworks	Microsoft Active Directory/Domain Services *(Required for aspenONE Web Server)*
SLM Server	Your Aspen SLM server must be installed and running prior to installing any V8.6 product.

aspenONE Engineering V8.6 Minimum Hardware Requirements

Computer and Processor	Intel® Core™ 2 Duo 3.00GHz
Memory (RAM)	4 GB
Free Hard Disk Space	40 GB [Install size is 15 GB]
Note on Disk Space	aspenONE Engineering requires about 15 GB when all functionality is installed. Additional space may be required while installing, so 40 GB of free space is recommended. Additionally, programs generate temporary files that may occupy space depending on how you use the programs.

aspenONE Engineering V8.8 Software Requirements

Supported Desktop Platforms for aspenONE Engineering V8.8

Supported Operating Systems	Windows 8.1 Update Professional and Enterprise (64-bit) Windows 7 SP1 Professional and Enterprise (32- and 64-bit) *AspenTech recommends using a 64-bit Operating System for Activated Engineering, RefSYS Refinery Reactors, and working with large models. For more information, please refer to the product installation guides.* *Aspen Plus Refinery Reactors and Process Manuals do not support Windows 8.1.* *If FIPS is enabled, aspenONE Exchange users must have the latest Windows Update patches installed on their machine.*
Supported Web Browsers	Internet Explorer 10 or 11 Google Chrome on Desktop and iPad *(Only supported by aspenONE Web Server)*
Supported Microsoft Office	Microsoft Office 365 ProPlus *(Desktop deployments only)* Microsoft Office 2012 SP2 or 2013 SP1 (32-bit) *(Except Aspen Plus Refinery Reactors)*
Required Runtimes	.NET Framework 4.5.1 .NET Framework 3.5 *(For SLM)* Java JRE 1.6 *(Only required for Economic Evaluation)* Flash 10 or higher *(Required for Exchange training videos)* Visual Studio Tools for Office 2010 *(Required for Aspen Batch Process Developer)*
Supported Database Clients	Microsoft SQL Server Express 2012 SP1 Microsoft SQL Server Express 2008 R2 SP2
Supported Reporting Services	Crystal Reports 11 *(Only used by Economic Evaluation)*
Tablet Support	iOS 8.x on iPad or Windows 8.1 on Microsoft Surface Pro *(Tablets only supported for aspenONE Web Server)*
SLM Server	Your Aspen SLM server must be installed and running prior to installing any V8.8 product.

aspenONE Engineering V8.8 Software Requirements

Supported Server Platforms for aspenONE Engineering V8.8

Supported Operating Systems	Windows Server 2012 R2 Windows Server 2008 R2 SP1 *Aspen Plus Refinery Reactors and Process Manuals do not support Windows Server 2012 R2.* *If FIPS is enabled, aspenONE Exchange users must have the latest Windows Update patches installed on their machine.* *If using aspenONE Exchange on Windows Server 2012 R2, you must select the Desktop Experience option during Windows installation to enable Flash training videos.*
Required Runtimes	.NET Framework 4.5.1 .NET Framework 3.5 *(For SLM)* Java JDK 1.6 *(Only required for Economic Evaluation and aspenONE Web Server)* Flash 10 or higher *(Required for Exchange training videos)*
Supported Database Servers	Microsoft SQL Server 2012 SP1 (Standard and Enterprise)* Microsoft SQL Server 2008 R2 SP2 (Standard and Enterprise)* Oracle Database 12.1.0.2 *(Only supported by ABE)* Oracle Database 11.2.0.4 *(Only supported by ABE)* ** aspenONE Web Server and ABE also support Express editions of these SQL servers.* *EDR does not use database servers. Deploys its own Access DB files.*
Supported Web Servers	IIS 8.5 and 7.5 *(Only required for aspenONE Web Server and Process Manuals)*
Required Java App Servers	Apache Tomcat 7.0.57 *(Only required for aspenONE)*
Required Security Frameworks	Microsoft Active Directory/Domain Services *(Required for aspenONE Web Server)*
SLM Server	Your Aspen SLM server must be installed and running prior to installing any V8.8 product.

aspenONE Engineering V8.8 Minimum Hardware Requirements

Desktop System Requirements

Computer and Processor	Intel Core-i5 family 2.8 gigahertz (GHz) or faster
Memory (RAM)	8 GB [1/2]
Free Hard Disk Space	80 GB [1]
Display	Graphics card / monitor supports 1280 x 1024 or higher resolution
Network	100 MB/second

Server System Requirements

Computer and Processor	Dual Intel Wolfdale-DP family 2.66 gigahertz (GHz) (4 cores) or faster [3/4]
Memory (RAM)	16 GB or more [3/4]
Free Hard Disk Space	300 GB [3/4]
Display	Graphics card / monitor supports 1280 x 800 or higher resolution
Network	100 MB/second or above, Gigabyte network recommended

[1] For desktops with PIMS, 16 GB of RAM and 250 GB of free hard disk space is recommended.
[2] On a 32-bit Windows 7 system, the operating system cannot use more than 4GB of RAM. 64-bit systems are recommended.
[3] For standalone deployments of Engineering products, the following is sufficient:
Intel Core-i5 family 2.8 gigahertz (GHZ) or faster, 8 GB of RAM, and 150 GB of free hard disk space.
[4] For aspenONE Server and Aspen Properties Enterprise Server, the following is recommended:
Quad Intel Wolfdale-DP family 2.66 GHZ (8 cores) or faster, 32 GB of RAM, and 500 GB free hard disk space.
SLM (Software License Manager), AFW (Aspen Framework Security), and Infrastructure machines follow the same hardware requirements as Engineering.
When running software on a virtual machine, the machine should meet the same requirements as shown above.

Simplified Installer

Making it Fast and Easy for Users to Update Software

The new V8 Installer simplifies installation with improved prerequisite checking and streamlined product bundling. The number of screens has been reduced from 17 to 6 and the number of user actions has been reduced from 21 to 6. Installing aspenONE Engineering is now quicker and easier than ever before. Unlike the previous installation workflow, the installation process has been streamlined and made faster and easier to follow with no need to install additional patches. There are also fewer pre-install requirements. For example, SQL server is no longer required for desktop installation. Now all aspenONE Engineering products are installed from one DVD with no additional patches. The new V8 installer has workflow capabilities that assemble all installation tools together in a single interface and integrates the installation process with the deployment process.

Installation Guides

These are delivered with the media and can be found in the documents folder under *Deployment and Installation Guides*.

Resources

Video

- Installer Video

Silent Installation

Deploy Software Seamlessly Across the Enterprise

The new V8 installer has workflow capabilities that assemble all installation tools together in a single interface and integrates the installation process with the deployment process. The Silent Installer provides a mechanism to automatically deploy AspenTech software to multiple computers to ensure a consistent configuration of the software on all target computers. The aspenONE Installer provides a means to record user inputs using the built-in record option. The output of this recording can then be used to perform an unattended install.

User inputs can now be recorded as part of the *Prepare Deployments* workflow. The new *Prepare Deployments* workflow in the installer allows you to specify install options, as well as the location of the response file. The generated response file encrypts user-entered passwords and provides a mechanism to easily overwrite any directory locations, and other configuration settings customizable at install time. The enhanced unattended install tool *(ATRUNUNATTENDED.EXE)* supports additional deployment options to make mass deployment easier for the end user.

Installation Guides
These are delivered with the media and can be found in the documents folder under *Deployment and Installation Guides*.

Resources

Video

- Silent Installation

Aspen License Deployment Assistant

Quickly Deploy Licenses using Aspen License Deployment Assistant

The Aspen License Deployment Assistant helps engineering customers to automatically deploy the licenses required for a new release quickly and more easily than ever. Rather than acquiring new license files, you simply run the Deployment Assistant and it will identify all of the licenses you need.

Installation Guides
These are delivered with the media and can be found in the documents folder under Deployment and Installation Guides.

Resources

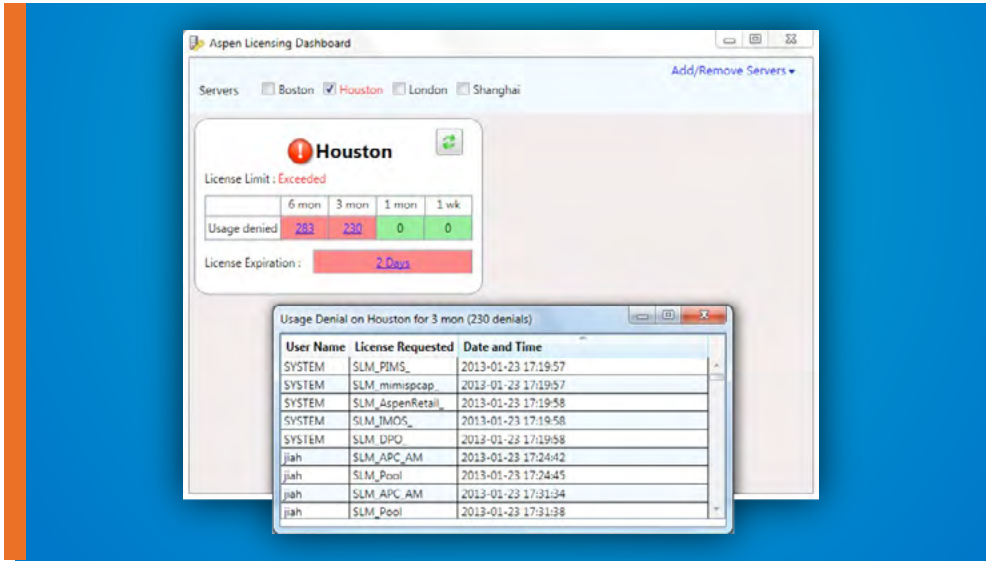
Video

- Aspen License Deployment Assistant

Aspen Licensing Dashboard

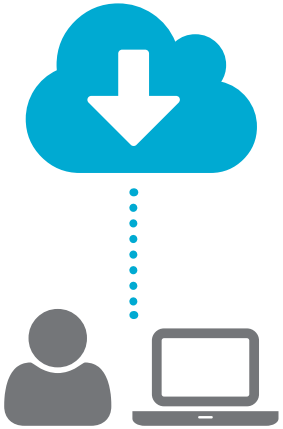
Monitor License Server Activity—Including Who's Denied Access

The Aspen Licensing Dashboard allows administrators to monitor license denial and expiration, as well as connections to the license server. Administrators can receive alerts if any licenses were denied and easily access the last six months of denials via the dashboard. They can also drill down to view the specific user and license that were denied. Administrators can also view license expiration by server organized by expiration date, and receives alerts if licenses are no longer being granted due to loss of network connection to the license server or if the license server has stopped responding.



Update Centers

Maintain and Update your aspenONE Engineering Suite

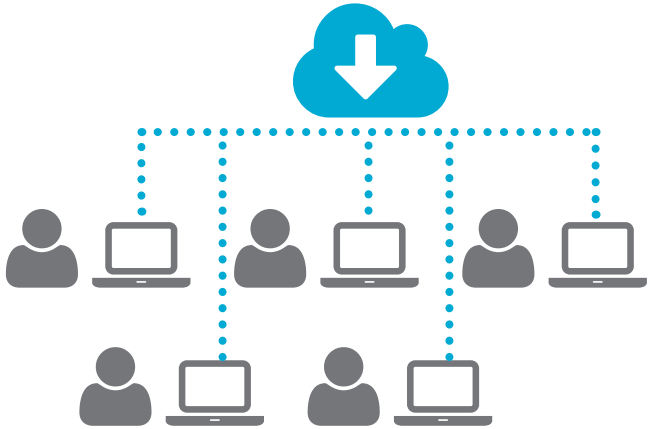


For End Users

The aspenONE Update Center automatically detects, downloads, and installs the latest patches for all of the aspenONE Engineering products installed on your computer. Using the aspenONE Update Center is an easy way to stay up-to-date with the latest patches to ensure optimal performance and the stability of aspenONE Engineering products.

Visit the Update Center *

* Requires an AspenTech Customer Support Website Login as well as the ability to download and install the tool



For The Enterprise

The Enterprise Update Center significantly reduces the time and effort for IT Administrators to deploy aspenONE Engineering patches to large numbers of users simultaneously. The Aspen Enterprise Update Center can be hosted within your organizations firewall and can be used to automatically see all patches and updates available for your products and versions. This provides your IT team and system administrators an easier and faster way to learn about updates available for all the products used in your organization, without having to provide all of your users administrative rights to download their own patches.

Visit the Enterprise Update Center *

* Requires an AspenTech Customer Support Website Login as well as the ability to download and install the tool

Additional Resources

On-Demand Webinars

Resource Library

Knowledge Base *

* Requires an AspenTech Support Account

Social Media

Community

LinkedIn

Twitter

Facebook

YouTube

Google+

Contact Us

eSales

- esales@aspentech.com

Customer Support & Training

- aes.support@aspentech.com

Feedback on this eBook

- engproductmarketinga@aspentech.com

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