



Combine the best of Aspen HTFS[™] and Aspen B-JAC[™] with AspenTech's New Application for Design, Checking (Rating) and Simulation of Shell and Tube Heat Exchangers

Overview

Aspen Tasc+ is a versatile tool for detailed simulation and optimized design of shell and tube heat exchangers. Aspen Tasc+ allows you to:

- Design the most economical exchanger for your application
- Take assurance of operational performance that derives from Aspen HTFS+[™] proprietary research-based methods
- Design, check, simulate and perform the complete mechanical design in a common user interface for all shell and tube types
- Easily "plug" your shell and tube designs into either of AspenTech's steady-state simulators so you can accurately evaluate heat exchanger performance in the context of your overall process



Design

Aspen Tasc+ uses sophisticated optimization logic to select the optimum exchanger for minimum cost or area to meet your specified process conditions and geometric constraints.

Check (Rate)

Aspen Tasc+ allows you to determine quickly if a given exchanger will have sufficient area to achieve a specified duty.

Simulate

Aspen Tasc+ allows you to determine the outlet conditions and performance for a given exchanger from specified inlet conditions.

Process Simulation

High-level run-time interfaces between Aspen Tasc+ and Aspen Plus[®]/Aspen HYSYS[®] allow you to optimize and accurately evaluate the performance of the heat exchangers within a plant or process.

Mechanical Design

Aspen Teams[®] performs a complete optimized mechanical design for shell and tube heat exchangers. A bi-directional interface between Aspen Tasc+ and Aspen Teams allows you to efficiently optimize for both thermal and mechanical design constraints.

Process Applications

Aspen Tasc+ provides flexibility that enables a variety of industries – including oil & gas, chemicals, petrochemical and power, as well as engineering contractors and equipment fabricators – to use it in a wide range of applications, including:

- Reflux condensers
- Kettle reboilers
- Thermosyphon reboilers
- Falling film evaporators
- Multi-shell, multi-phase feed-effluent trains

This flexibility allows the process stream to be:

- Single-phase liquids or gases
- · Boiling liquids or condensing vapors
- Single-component or any mixture with or without non-condensable gases in any condition (including superheated vapor, saturated vapor, or subcooled liquid)

Physical Properties

Aspen Tasc+ offers three databases that collectively contain over 2500 component properties and more than 30 industry-standard VLE methods and mixing rules:

- Aspen Properties®, widely used in the chemicals sector
- Aspen COMThermo®, the leading physical property database in oil & gas processing
- Aspen B-JAC[™] properties package

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Aspen Tasc+: Key Technical Features

- Multi-shell capability with no practical limits on shells in series or in parallel
- All TEMA shell and head types
- Double-pipe and multi-tube hairpin exchangers
- Koch Heat Transfer's twisted tube exchanger modeling technology
- Interactive graphical tube layout customization
- Plain, low finned, or longitudinally finned tubes
- Single or double segmental baffles, no tubes in window, rod baffles, and unbaffled heat exchangers
- Background ASME mechanical design for more accurate sizing, costing and weight calculation
- SI, metric, US and user-customizable systems of measurement
- Budget costing package, customized to your own labor and material costs
- EN, JIS and ASTM material databases



Aspen Tasc+ allows you to use the installed property databases, and import properties from process simulators or from your own properties software. You may also specify properties directly.

Output

Aspen Tasc+ uses the power and flexibility of the Microsoft Windows[®] environment to allow you to explore exchanger geometry and performance in detail. In addition, Aspen Tasc+ is designed to support "drag & drop" interfacing with Microsoft[®] Excel, as well as high level communication with other software.

Aspen Tasc+ thermal output includes:

- Optimization path that identifies the most economical design selection, possible alternate designs, and controlling design constraints
- Extensive warning and error reporting, alerting you to potential operational problems
- Fully completed TEMA data sheet
- Tube layout and setting plan drawings
- *.DXF files from drawings for interface to CAD and graphics applications
- Comprehensive incremental output
- Vibration analysis
- Thermosyphon stability checks and flow pattern evaluation







About AspenTech

Aspen Technology, Inc. provides industry-leading software and professional services that help process companies improve efficiency and profitability by enabling them to model, manage and control their operations. AspenTech's integrated aspenONE[™] solutions are aligned with the key industry business processes, providing manufacturers the capabilities they need to optimize operational performance, make real-time decisions and synchronize the plant and supply chain. Over 1,500 leading companies already rely on AspenTech's software, including Bayer, BASF, BP, Chevron Corporation, DuPont, ExxonMobil, Fluor, GlaxoSmithKline, Sanofi-Aventis, Shell, and Total. For more information, visit www.aspentech.com.

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