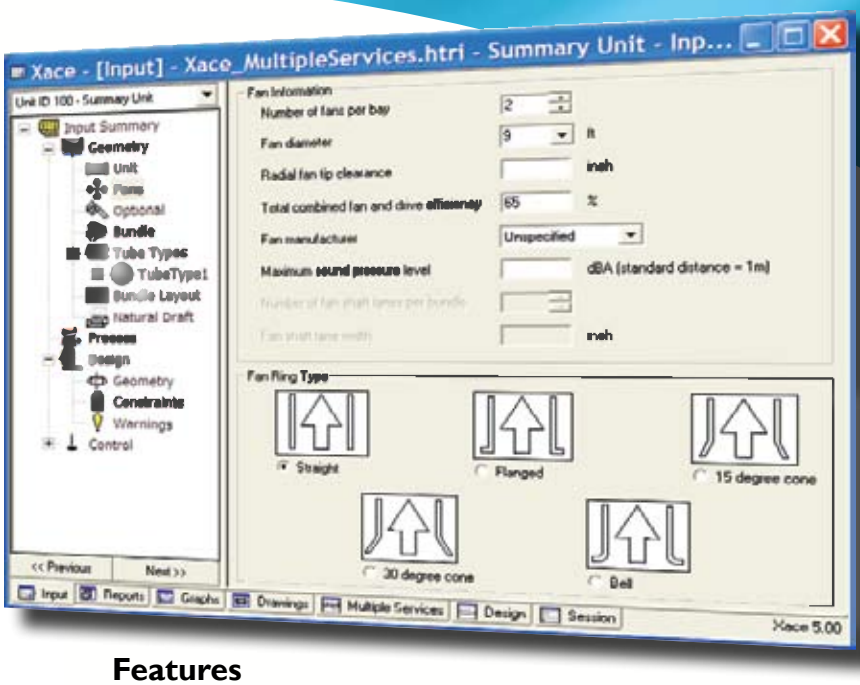
Xace®

Design, rate, and simulate air coolers and economizers

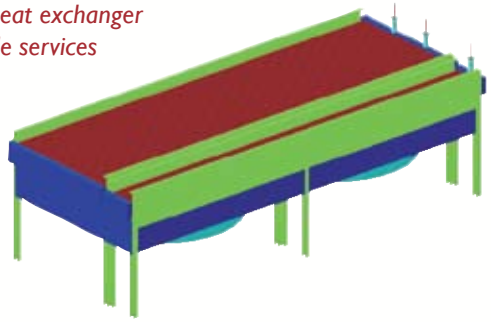


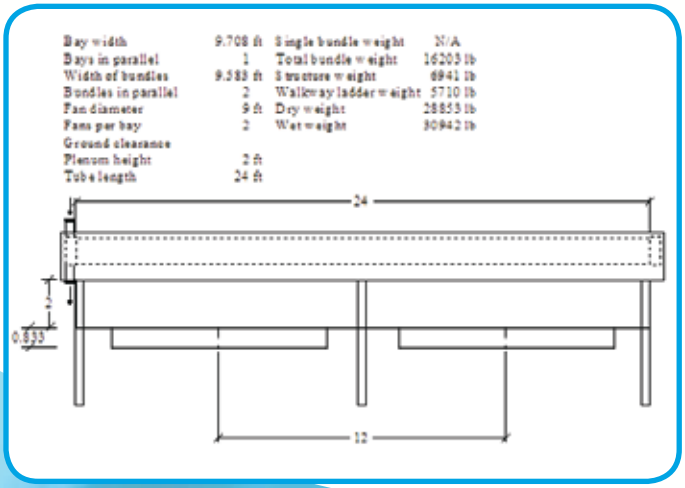
A fully incremental program, ***X**ace* contains HTRI's latest pointwise methods based on extensive airside and tubeside experimental data. The heat transfer and pressure drop correlations are continually improved as a result of our ongoing research program.

And as part of HTRI ***X**changer Suite*®, ***X**ace* lets you quickly transfer process and fluid property data to other exchanger applications.

***X**ace* is the industry standard for designing, rating, and simulating air-cooled exchangers and economizers.

Air-cooled heat exchanger with multiple services





Features

- ***X**ace* models virtually any bundle arrangement.
- 3D incrementation calculates localized profiles for heat transfer and pressure drop.
- Detailed output reports provide overall and localized results.
- Extensive visualization tools show exactly how the exchanger is performing.
- Integrated physical property system eliminates requirement for additional property generation software. ***X**changer Suite* includes VMGThermo™, an extensive and rigorous fluid physical property generator, from Virtual Materials Group, Inc.
- ***X**ace* integrates with other engineering tools such as process simulators and mechanical design software, and CAPE-OPEN compliance ensures the broadest range of compatibility with other process simulation and physical property software.
- Both input and output support multiple unit sets, and custom unit sets can be defined.

HTRI®

Geometry Specifications

- Forced, induced, A-frame, no fans, and natural draft calculations
- Horizontal, vertical, and inclined tubes
- Up to nine different tube geometries per bundle
- High-finned, low-finned, continuous-finned, plain, and stud-finned tubes
- Twisted tape and microfin (single-phase) tubeside enhancements
- Staggered and inline arrangements with any combination of transverse and longitudinal pitch
- Up to 99 tuberows per bundle
- Automatic or user-specified bundle layouts
- Single bundle, multiple bays, bundles in parallel, and multiple bundles/services options
- Split-pass headers with up to 24 tubepasses in each tuberow

Calculation Features

- Rigorous heat transfer and pressure drop calculations performed using a 3D incrementation scheme to divide the exchanger into a large number of zones
- Flexible process input that allows specification of known process information (temperature, weight fraction vapor, and/or flow rate) with the program calculating missing information based on energy balance
- Three modes: rating (known duty and geometry), simulation (unknown duty and known geometry), and design (known duty and unknown geometry)
- Effects of airside flow and temperature maldistribution
- Integrated vendor-supplied fan selection software

Design Tools

- Automatic optimization of tuberows, bundle width, tubepasses, and airside face velocity
- Grid design option to vary geometry over user-specified ranges and step sizes
- Design constraints to prevent selection of undesirable designs
- Design grid to keep all alternative designs at your fingertips

Output Reports

- Extensive set of spreadsheet-style output reports that can be printed or exported to Microsoft Excel®
- Summary reports with overall results in one or two pages
- Detailed reports for local profiles of all important parameters (temperature, pressure, heat transfer coefficients, heat flux, etc.)
- Standard API 661/ISO13706-style specification sheet
- Selectable font sizes to make reports easy to view
- Customizable unit sets that can be changed dynamically as you work

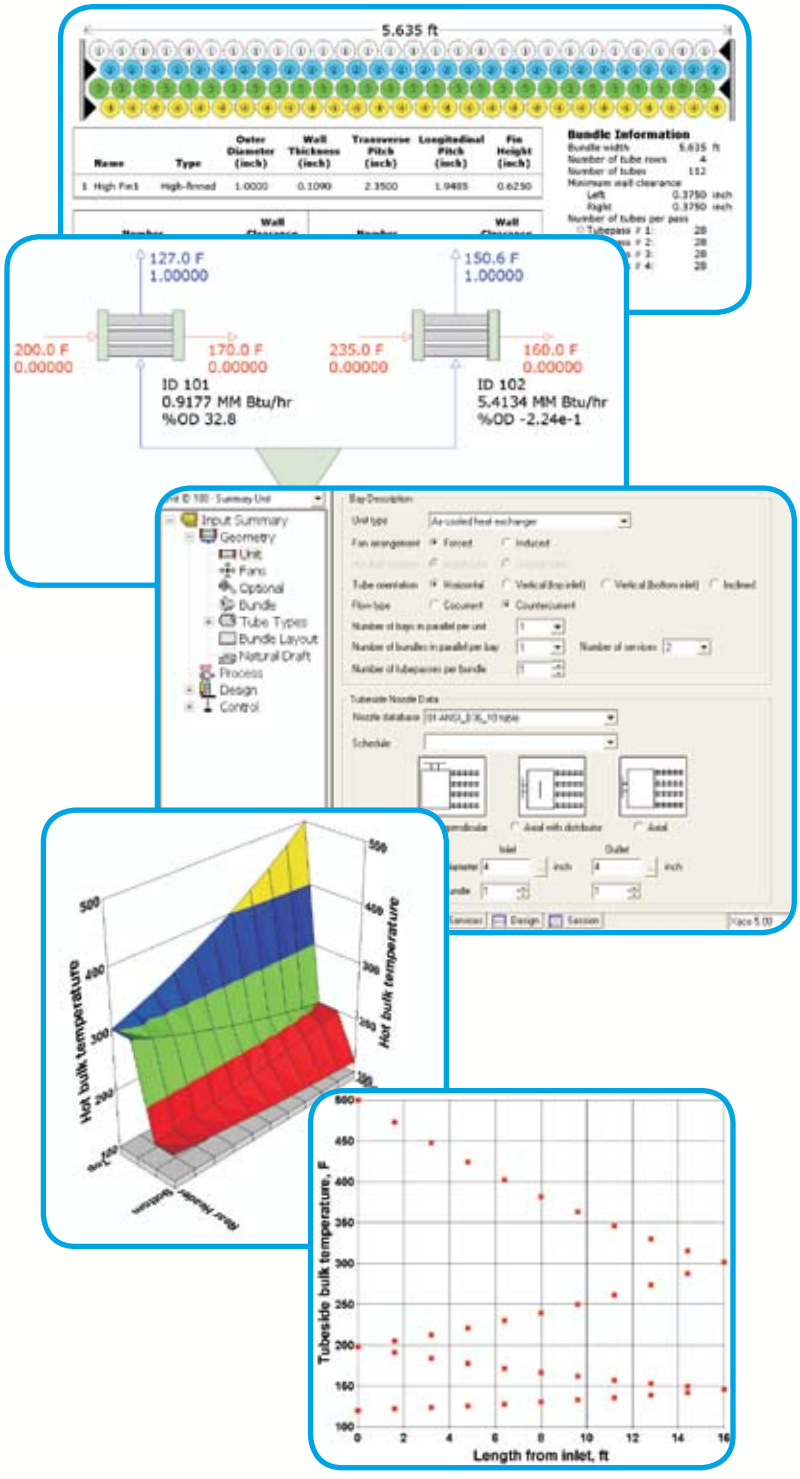
Graphic Visualization

- 2D and 3D scaled drawings provide visual confirmation of exchanger geometry
- 2D and 3D plots of local performance variables allow you to quickly spot any performance issues such as an internal temperature pinch
- Bundle layout drawing illustrating exact tube placement, including tubepass and tube type

Minimum System Requirements

Xace requires Microsoft Windows 2000 or later running on an Intel Pentium or compatible CPU with at least 128 MB RAM (512 MB for Windows Vista, Windows Server 2008, or Windows 7), and approximately 280 MB of free disk space.

HTRI recommends a 1GHz or faster processor, 1 GB RAM, the Windows XP operating system, and a graphics resolution of at least 1024 x 768. A complete installation of *Xchanger Suite* requires approximately 425 MB of available disk space.



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