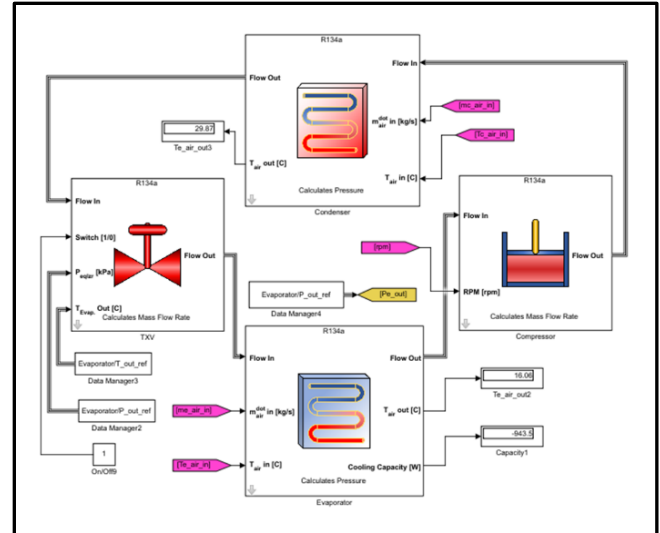


THERMOSYS™

Introducing Thermosys™ 5.1 ...

The THERMOSYS™ 5 Toolbox for MATLAB/Simulink® is a suite of simulation tools for analyzing the behavior of air-conditioning and refrigeration systems (both steady-state and time-dependent). It was developed at the University of Illinois at Urbana-Champaign through sponsorship by the Air-Conditioning and Refrigeration Center (ACRC) and is currently distributed by CU Aerospace.



Vapor Cycle System Model in Thermosys™

Key benefits include:

- ❖ Nonlinear models suitable for simulation and control design of multiphase fluid dynamics associated with subcritical air-conditioning and refrigeration systems
- ❖ Capability to simulate transient dynamics, including startup and shutdown dynamics
- ❖ Component models library with user-defined parameters for building customized systems models
- ❖ Approachable and adaptable, with drag 'n' drop functionality and compatibility with MATLAB/Simulink® tools
- ❖ Built-in fluid properties for air, ammonia (R717), carbon dioxide (R744), glycol/water mixtures, R21, R134a, R245fa, R404A, R407C, R410A, R507A, and water
- ❖ Brazed plate heat exchanger models for condensers and evaporators
- ❖ Humid air exchanger modeling for condensers and evaporators
- ❖ Improved usability, with application of a bus format to handle data connections between components
- ❖ Newly-developed electro-thermal models for studying motors, generators, and batteries

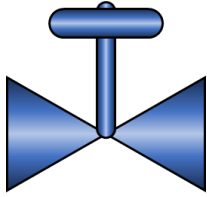
Pricing options:

Thermosys™ is offered as either a perpetual single-seat license, or an annual multi-machine license package for commercial R&D and academic groups. Special pricing options are offered for educational users, government institutions, and ACRC members.

Several support options are available:

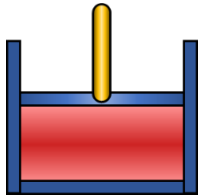
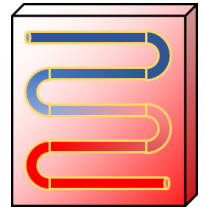
- ❖ Extended maintenance of perpetual license for upgrades and user support
- ❖ Enhanced customer support (hourly or packages)
- ❖ Project support for system design or custom component model development





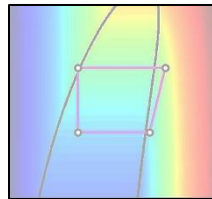
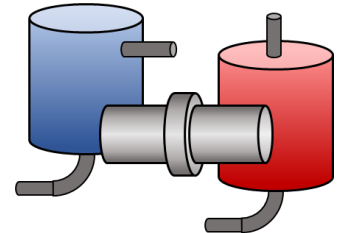
Valves: Thermosys™ includes models for automatic expansion valves, thermostatic expansion valves and electronically controlled throttling valves, with user-defined parameters and performance.

Heat Exchangers: Various options are available for modeling heat exchangers, evaporators, and condensers, including tube-and-fin types and brazed-plate types.



Pump Models: User-defined models for volumetric and adiabatic efficiency are included, as well as thermal dynamics modeling of the compressor housing.

Pipes/Tanks/Junctions/Splits: Flow resistance blocks enable users to account for pressure losses between components; adaptable models for tanks, junctions, and splits are also included.



Advanced Features: The latest release includes updated features such as live P-h plotter blocks, humidity models for heat exchangers, gas coolers with secondary fluids, and electrical component thermal models.

THERMOSYS™

Go to www.thermosys.us for details and pricing.