

# VAPOR CYCLE LIBRARY

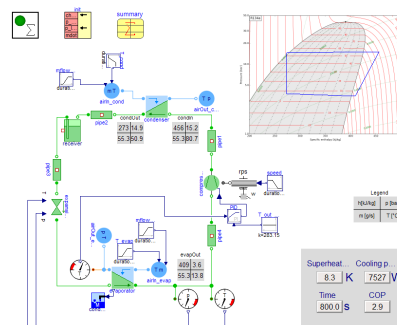


- ▶ The Vapor Cycle Library enables rapid design and simulation of vapor compression cycles for virtual prototyping, component dimensioning, and control system design.

The Vapor Cycle Library is intended for the design, analysis and optimization of vapor cycle systems including vapor compression cycles for heating or cooling purposes and Organic Rankine cycles for waste-heat recovery. Component interaction and dynamic system behavior can be studied at an early design stage to perform control design, charge optimization as well as performance studies.

The library can be used as an integrated part of energy management design for both mobile and residential applications, as a stand-alone solution or extended with the functionality of the Liquid Cooling Library and the Heat Exchanger Library.

Vapor Cycle Library is ideal for system and component development in the automotive or aerospace industry, domestic air-conditioning and heating, industrial refrigeration and waste heat recovery, cryogenic applications, food production, and supermarket refrigeration.



## KEY FEATURES

- Automatic monitoring of the total refrigerant charge
- Easy to use examples for pre-defined thermodynamic cycles
- Flexible composition of user-defined system architectures
- Comprehensive set of refrigerants
- Interface with CoolProp and REFPROP
- Can be used with Liquid Cooling Library and Heat Exchanger Library as an integral Vehicle Thermal Management solution
- Transient and steady-state simulation of component test rigs and cycle systems
- Flexible composition of user-defined system architectures
- Plug and play compatible with other libraries for thermal management:

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Vapor Cycle Library is developed and maintained by Modelon.  
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Modelon is the premier provider of system modeling and simulation solutions based on Modelica and FMI standards.