# HEAT EXCHANGER LIBRARY

▶ Design and positioning of detailed, geometry-based heat exchanger models for thermal management system applications.

Heat Exchanger Library is a model library for heat exchanger design, dimensioning and stacking. It contains geometry-based component models and test set-ups for compact heat exchangers such as evaporators, condensers, charge air coolers, radiators and chillers.

The impact of inhomogeneous air inlet velocities and temperatures can be monitored along with their distribution inside the components. Support for

CFD-data coupling bridges the gap between 3D and 1D system simulation.

Several heat exchangers can easily be arranged in series in the air flow path. This is particularly useful for automotive applications. Heat Exchanger Library integrates seamlessly with Vapor Cycle Library and Liquid Cooling Library. Together they are ideal to model complete thermal management architectures including energy transport, cooling, refrigeration and heat generation.
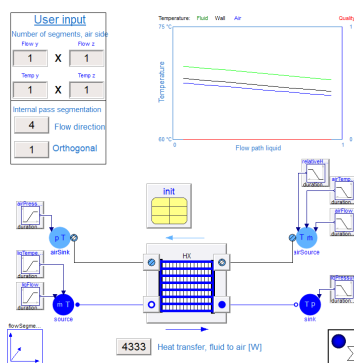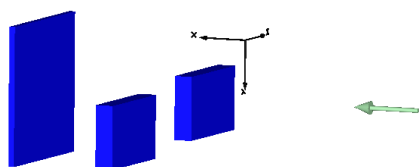
KEY FEATURES

- Geometry based heat exchanger models for system simulation
- Friction and heat transfer models for a range of heat exchanger designs
- Captures effects of inhomogeneously distributed inlet air conditions
- Imposed flow or pressure mode operation
- Coupling to CFD data
- Modeling of heat exchanger stacks with different heat exchanger geometries, sizes and positioning
- Easy-to-use testbench templates
- Fully compatible with Modelon thermofluid libraries

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Heat Exchanger 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.