



TIL

MODELICA LIBRARY FOR SIMULATION OF FLUID SYSTEMS

Developed by TLK-Thermo GmbH and TU Braunschweig, Institut für Thermodynamik



Product description

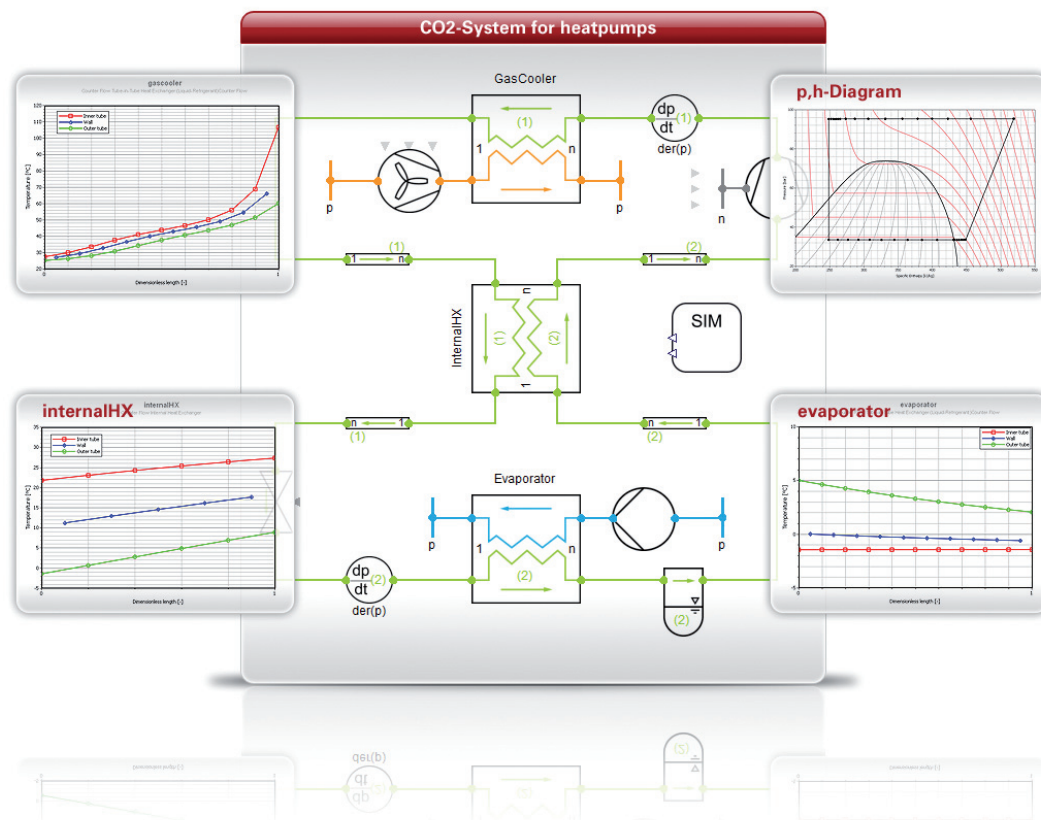
TIL is a Modelica library for steady-state and transient simulation of fluid systems such as heat pump, air-conditioning, refrigeration or cooling systems. TIL uses the object-based Modelica library TILMedia to access the computation routines for fluid property data of REFPROP or other fluid databases. Furthermore, an interface to the AirConditioning library developed by Modelon exists.



TIL contains a component model library for compressors, heat exchangers, tubes, accumulators, valves, air ducts and more. In addition, a comprehensive library of models for detailed heat transfer and pressure drop correlations is implemented.

A graphical user interface for TIL simplifies parameter setup, simulation control and post processing. The direct interface to StateViewer allows for instantaneous visualization of transient simulation results in thermodynamic diagrams, such as pressure-enthalpy or temperature-entropy diagrams. A visualization of temperature distribution in heat exchangers is also possible.

TIL is implemented with freely accessible Modelica code that can be extended and changed easily, due to simple object-oriented structure and interfaces.





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References

TIL is used in projects with our clients in the following applications:

- ▶ Evaluation of conventional and advanced concepts for domestic heat pumps.
- ▶ Simulation of HVAC systems for busses.
- ▶ Modeling complex thermal management systems with TIL's AC cycle and TISC® for the co-simulation with other simulators.
- ▶ Detailed evaluation of condensers with internal receiver.
- ▶ Evaluation of valve concepts.
- ▶ Development of component models for the AirConditioning Library.

TIL is a result of long term experience in thermal science, simulation techniques and software design at TLK and IfT. The library TIL is a product that can be used by clients of TLK and IfT.

Contact

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