

Library Concept and Generic Parametrization for Energy Planning of Polygeneration Systems

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Highlights and Research Contribution

- ▶ Open source energy planning library (Modelica/Dymola)
- ▶ Validated component models with few parameters (spec sheet)
- ▶ System validation with hydraulics and control
- ▶ Novel strategies for generic parametrization

- **Energy Center:** Boiler, micro gas turbine, internal combustion engine, hot and cold water storage, absorption chiller; **solar thermal and solar PV**, etc.

- Absorption chiller: 5 parameters
- Easy-to-parametrize
- Computationally fast
- Basis for optimization

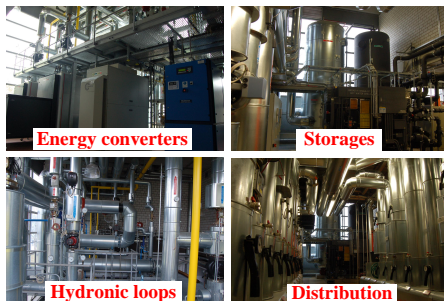


Figure 1: Energy Center at Offenburg University

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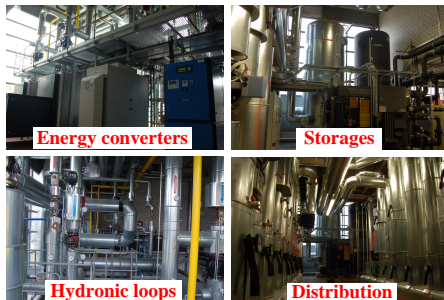


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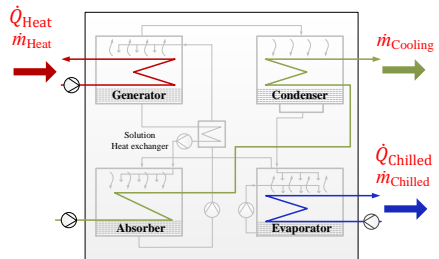


Figure 2: Absorption chiller at Offenburg University

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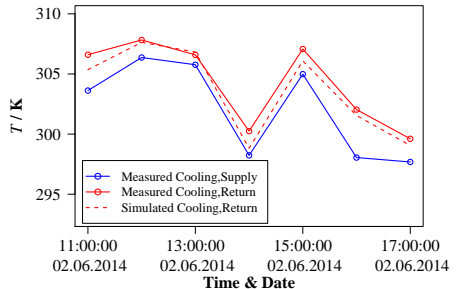


Figure 3: Absorption chiller: Validation of cooling water return temperature

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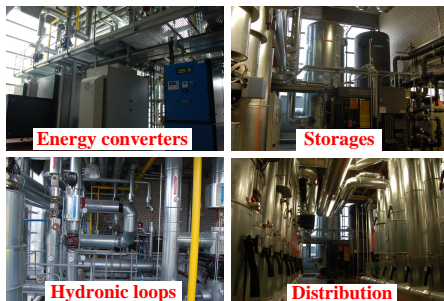


Figure 4: Energy Center at Offenburg University