

# THERMAL POWER

# LIBRARY



- Thermal modeling of conventional and conceptual power plants for performance analysis, design, optimization and control.

Modelon's Thermal Power Library provides a modeling, simulation and optimization framework for thermal power plants and district heating networks; covering new and traditional energy sources including, concentrated solar power, gas, coal, waste and nuclear power. The comprehensive set of components enables performance analysis and optimization to be easily studied in the early concept design phase.

The Thermal Power Library is ideal for control system development and verification; for instance, developing control strategies to cope with rapid load changes brought on by the increasing use of renewable energy sources. Thermal Power Library also models transient operation and control for start-up and load rejection scenarios. Modelon's flexible modular template structure enables users to efficiently and effectively simulate models at appropriate fidelity levels.

## KEY FEATURES

- Steady-state and transient simulation
- Dynamic optimization of large-scale system
- Wide range of component models
- Numerically efficient fluid models for fast simulation and optimization
- Rapid model development using predefined templates
- Flexible structures for modeling new plant concepts, unique layouts, and evaluation of novel research concepts
- Production planning using dynamic optimization

