

# DATA CENTER

Bringing nuclear quality and standards to system simulation.

**FLOWNEX<sup>®</sup>**  
SIMULATION ENVIRONMENT



*Flownex<sup>®</sup> SE contains a large library of thermo-fluid components designed specifically for both steady state and dynamic system performance analysis and optimization.*

## TYPICAL USES

- Simulate large integrated systems
- Verify thermal designs
- Control philosophy testing and optimisation
- Assess performance changes following modifications to design
- Root cause failure analysis
- Simulate failure scenario thermal ride-through
- Quantify expected excursion hours based on typical weather data
- Quantify cooling infrastructure water usage



### 6SIGMA INTEGRATION

*Flownex<sup>®</sup> is developed within an ISO 9001:2015 quality management system that is ASME NQA-1 compliant.*

## FEATURES

- Clean and intuitive user interface
- Accurate fluid models
  - Humid air model
  - Two-phase refrigerant models
  - Typical industrial refrigerants such as Ethelene glycol and Propylene glycol
  - Brine models
- Full transient capabilities, including:
  - Adaptive time-step functionality
  - Heat capacity (thermal inertia) and water hammer (momentum)
  - Distributed control system library
- Comprehensive component library for modelling of: AHUs, CRAHs/ CRACs, Chillers,
- ACC, Cooling towers, and Pumped water systems
- Customizable components allowing multiple levels of detail depending on available data
- Import complex chilled water piping from Revit BIM files
- Built-in design and analysis features allowing automated parametric studies
- Coupling with CFD software



website

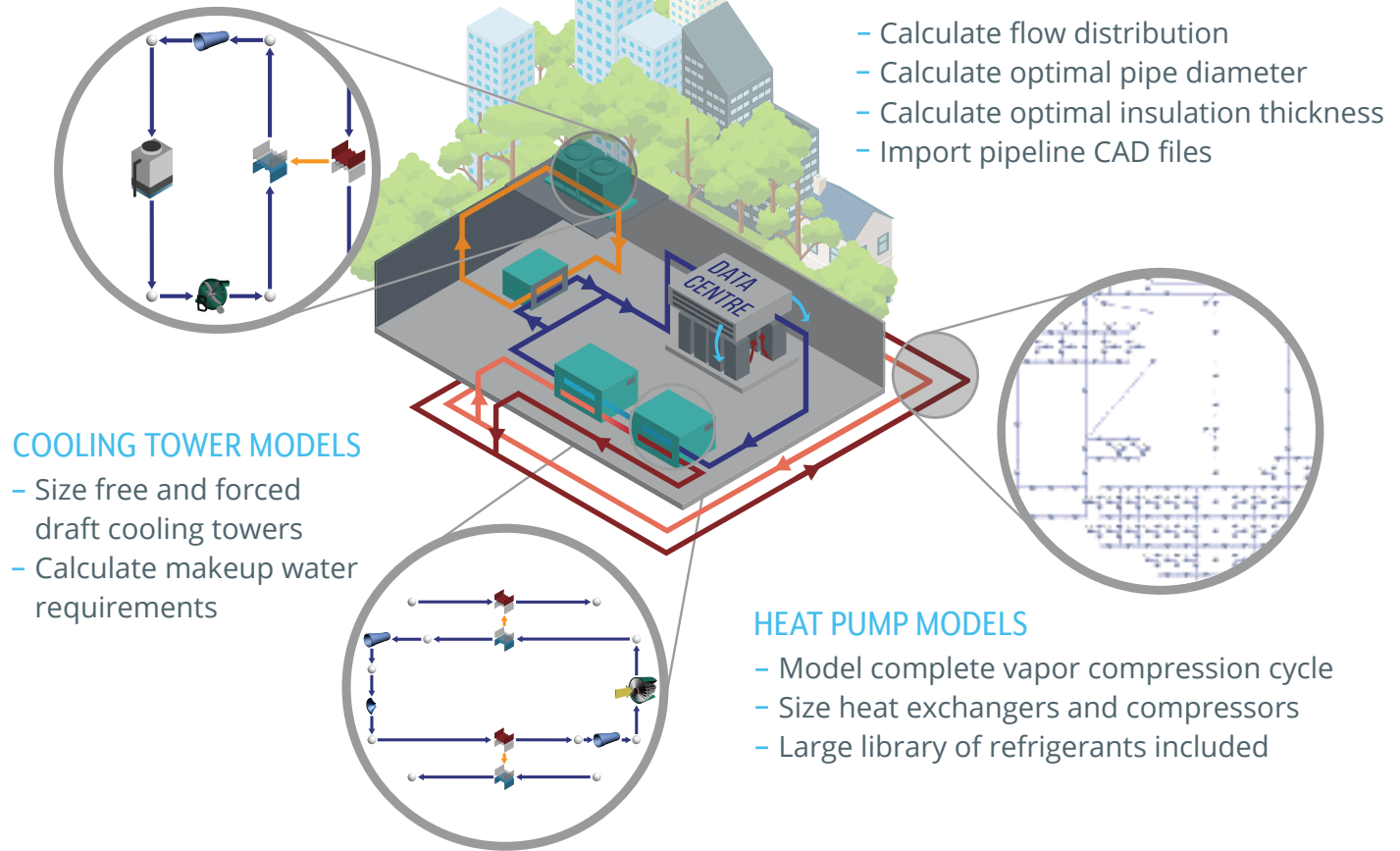


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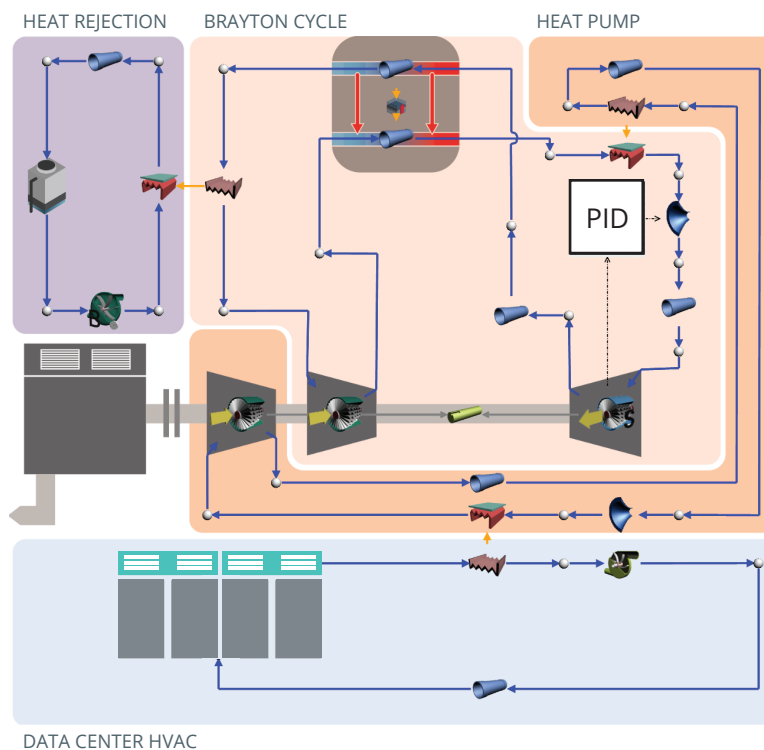
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# HEAT RECOVERY



## LINKS TO EXTERNAL SOFTWARE



# WASTE HEAT POWER GENERATION

## CONCEPT DESIGN

- Power cycle selection
- Working fluid selection

## CONTROL SYSTEM INTEGRATION

- Optimize control system logic
- Investigate load changes
- Investigate trip scenarios

## ANSYS INTEGRATION

- Co-simulate between 1D and 3D CFD
- Complete system modeling