FLOWNEX® SIMULATION ENVIRONMENT HVAC

Flownex SE provides HVAC engineers with the ideal systems simulation tool to design and optimize integrated ducting systems, refrigeration cycles and control systems with both accuracy and speed.

TYPICAL USES:

FLOW DISTRIBUTION

- System losses.
- Flow balancing.
- Component sizing.
- Psychrometry calculations.

REFRIGERATION SYSTEMS

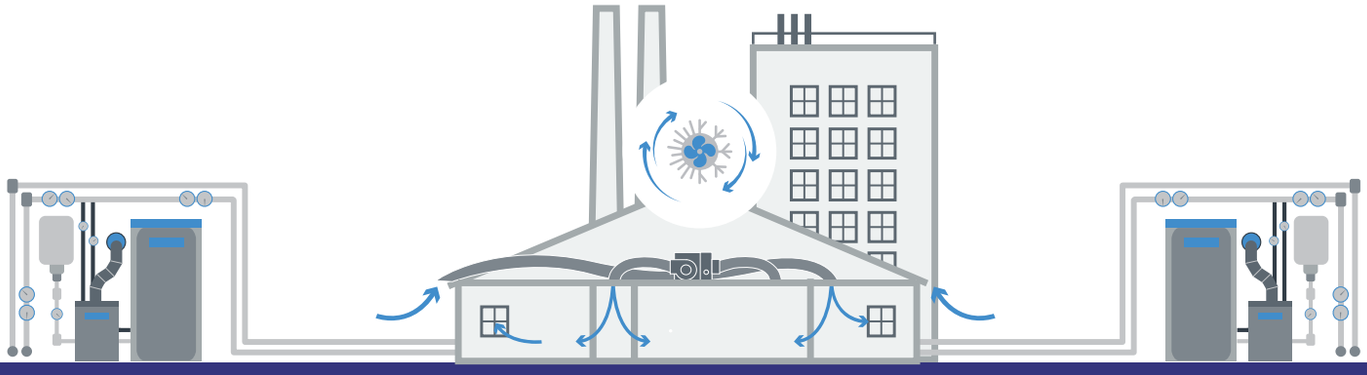
- Performance prediction.
- Cycle efficiency.
- Component selection and sizing.
- Determine operating ranges.

CONTROL OPTIMISATION

- Evaluate temperature, humidity and pressure requirements with system feedback.
- Optimize control philosophy.
- Test Modes and States.

BRINGING NUCLEAR QUALITY AND STANDARDS TO SYSTEM SIMULATION

Flownex® is developed within an ISO 9001:2015 quality management system that is also ASME NQA-1 compliant.



"I have found Flownex to be a powerful design tool which can simulate complex systems while producing results which can be practically applied. The interface is user friendly and can be learned quickly. The support team are responsive and quick to assist with technical queries.

AECOM
Jochie van der Merwe (Pr.Eng, M-ASHRAE)
Mechanical Area Lead

PADT
www.padtinc.com/flownex
productinfo@padtinc.com
Find us on:

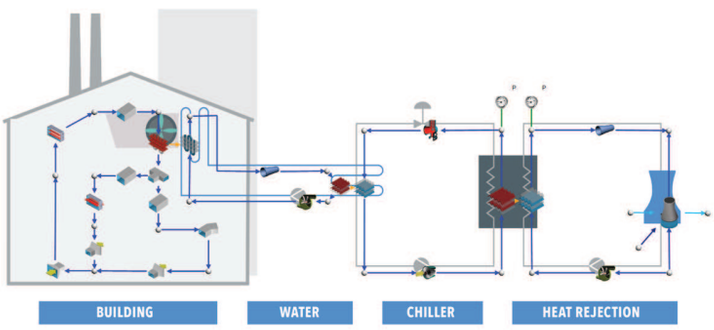
Flownex SE contains a large ASHRAE ducting library to easily calculate integrated system losses. This includes bends, junctions, dampers, screens and other widely used ducting components.

DESIGN AND OPTIMIZE ADVANCED HVAC SYSTEMS

- Complete solution to calculate temperature, humidity, and pressure requirements.
- Achieve optimum flow distribution with maximum energy efficiency.
- Investigate varying environmental conditions on HVAC system and improve design.
- Size flow control components, fans, and refrigeration cycles.

INVESTIGATE RISKS AND PERFORM DESIGN SAFETY

- Flownex is developed in an ASME NQA-1 compliant environment ensuring that risk studies can be carried out with confidence and accuracy.
- Capabilities such as contaminant tracking and mixed fluid models enable engineers to investigate accident scenarios and provide insights into the effectiveness of key safety systems.
- Analyze the capabilities of a system to maintain negative pressure environments in accident scenarios.



KEY FEATURES

- Simulate Integrated subsystems
- Test different modes of operation
- Multiple fluids in one system simulation
- Understand system behavior
- Optimizing control philosophies

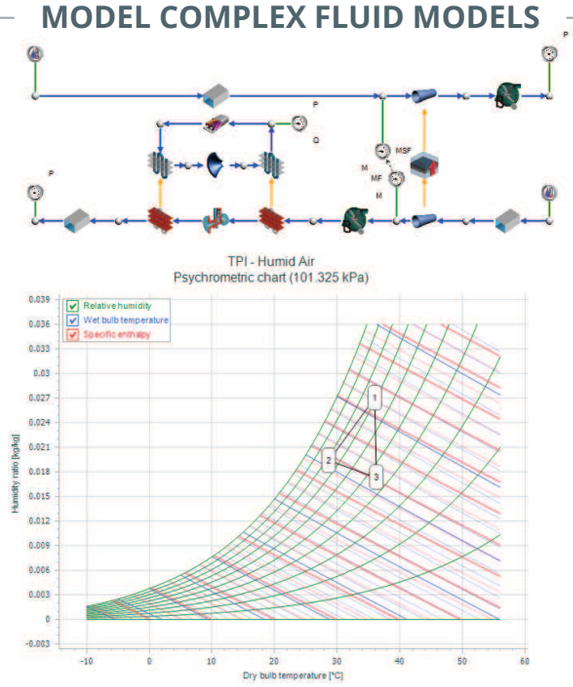
IMPROVE OVERALL EFFICIENCY

- Main air streams, chilled water streams, cooling towers, heat exchangers, refrigeration cycles).
- Evaluate different control strategies.
- Assess different heat recovery systems to quantify cost saving potential.

TYPICAL APPLICATIONS

- Integrated ducting networks for large industrial buildings
- Air conditioning for passenger carriages.
- Air handling units for data centers.
- Nuclear power plant containment applications.

MODEL COMPLEX FLUID MODELS



FLOWNEX SE USERS

HITACHI Inspire the Next · AECOM · CERN · YAZAKI