EnginSoft is a premier consulting firm in the field of Simulation Based Engineering Science (SBES) with a global presence. It was founded in 1984, but its founder and initial employees had been working in SBES since the mid '70s. Throughout its long history it has been at the forefront of technological innovation and remains a catalyst for change in the way SBES and CAE technologies in general are applied to solve even the most complex industrial problems with a high degree of reliability.

Today, EnginSoft is comprised of groups of highly qualified engineers, with expertise in a variety of engineering simulation technologies including FEM Analysis and CFD, working in synergic companies across the globe. We are present in Italy, France, Germany, the UK, Turkey and the U.S.A. and have a close partnership with synergetic companies located in Greece, Spain, Israel, Portugal, Brazil, Japan and the U.S.A.

EnginSoft works across a broad range of industries that include the automotive, aerospace, defense, energy, civil engineering, consumer goods and biomechanics industries to help them get the most out of existing engineering simulation technologies.
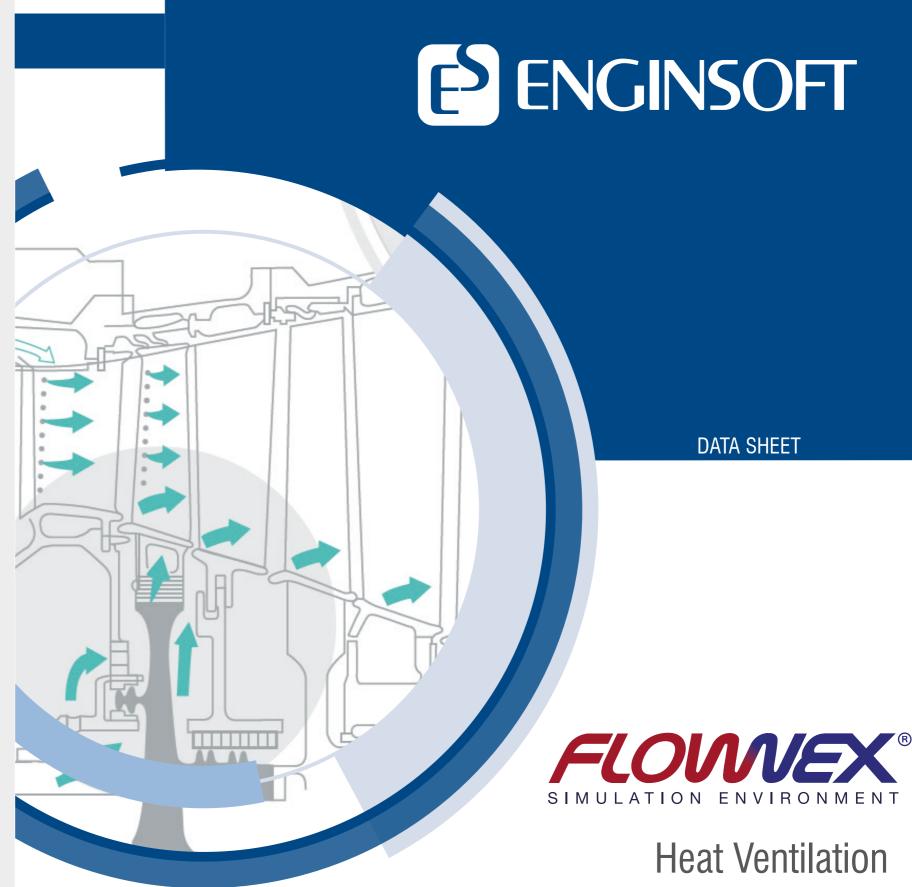
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ENGINSOFT

DATA SHEET

FLOWNEX®
SIMULATION ENVIRONMENT

Heat Ventilation and Air Conditioning (HVAC)
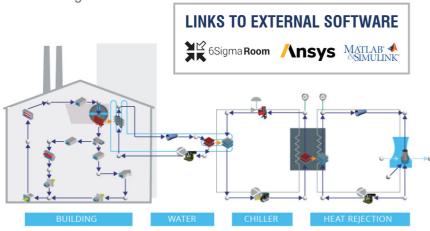
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china eu india japan korea russia usa

Flownex® is the perfect tool for ducting design and the simulation of cooling circuits with standard fluids or refrigerants: pressure drop, mass flow, relative humidity, temperature and heat flux are easily calculated.
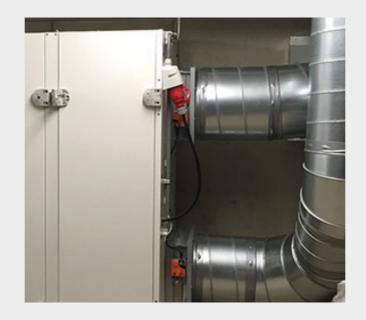
FEATURES

✔ Modern and intuitive user interface;

✔ Accurate fluid models: Humid air model; Two Phase Refrigerant models; Secondary refrigerants (Ethelene Glycol, Propylene Glycol, etc.);

✔ Full transient capabilities, including: Adaptive time-step functionality; Thermal and Rotational Inertia; Distributed control system library;

✔ Comprehensive component library for modelling of both chilled water systems and air handling units as well as a comprehensive library of ASHRAE ducting components;

✔ Customizable components allowing multiple levels of detail where limited performance data is available;

✔ Capability to import complex chilled water piping from Revit BIM files;

✔ Built-in design and analysis features allowing automated parametric studies;

✔ ISO9001 certification and NQA-1 compliance;

✔ Transient co-simulation capabilities with Ansys products and 6Sigma.

LINKS TO EXTERNAL SOFTWARE

6Sigma**Room**   **Ansys**   MATLAB &SIMULINK

BUILDING   WATER   CHILLER   HEAT REJECTION

Flownex is a product

FLOWNEX®
SIMULATION ENVIRONMENT

Heat Ventilation and Air Conditioning (HVAC)

TYPICAL USES

Design and optimise 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;

✔ Sizing of flow control components, fans, and refrigeration cycles.

Improve overall efficiency

✔ Balance and optimise plant (air streams, chilled water streams, cooling towers, heat exchangers, refrigeration cycles);

✔ Evaluate different control strategies by comparing total power consumption;

✔ Investigate different heat recovery systems to quantify cost saving potential.

Perform design safety analyses

✔ Analyse the capabilities of a system to maintain negative pressure environments in accident scenarios;

✔ Simulate the operating of critical systems when failures occur in the primary control system to ensure that the redundant control systems function correctly in maintaining safe conditions after a failure;

✔ Investigate the spread contaminants though the system during accident scenarios using the mixed fluid models in Flownex to investigate and provide insights into the effectiveness of key safety systems.

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