

# FloEFD™ for Heating, Ventilation and Air-Conditioning (HVAC)

MECHANICAL ANALYSIS  
Engineering Fluid Dynamics  
HVAC

**Mentor Graphics' Mechanical Analysis Division has been a leader in the simulation of airflow and temperature in and around buildings since launching the FloVENT® software in 1989. Now, Mentor Graphics brings you FloEFD (Engineering Fluid Dynamics) – a different breed of Computational Fluid Dynamics (CFD) software that connects directly with your mainstream CAD software.**

FloEFD enables you to:

- Simulate airflow and heat transfer using 3D CAD models directly, with no need for data translations or copies
- Solve airflow/thermal problems in complex devices including rotating geometry, curvilinear geometry, and thin shells
- Analyze and solve both internal and external flows
- Analyze and solve advanced physics including phase change and transient processes
- Develop “green” equipment that consumes less energy and maximizes cooling/heating efficiency
- Optimize temperature and humidity control
- Predict movement and distribution of airborne particulates
- Reduce equipment noise

## From CAD to Analysis Effortlessly

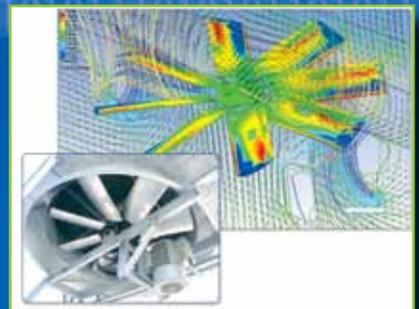
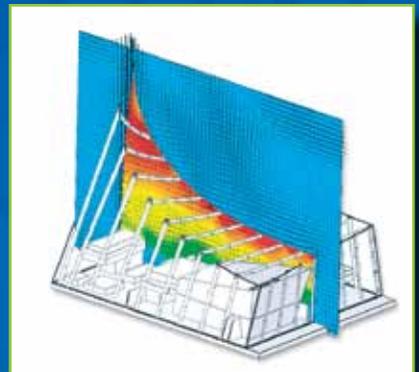
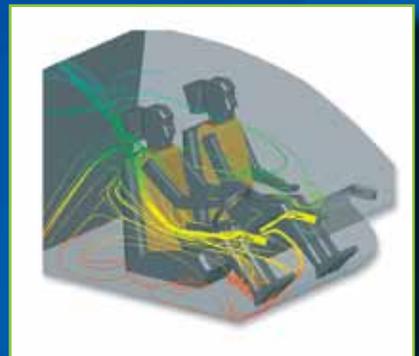
Unlike other CFD tools, FloEFD was developed for engineers by engineers so it works the way you do. FloEFD transforms and extends your preferred CAD software into a powerful simulation tool right on your desktop. FloEFD enables you to understand and improve performance in all the following types of HVAC equipment:

Air conditioning/air handling units  
Chilled water systems  
Compressors  
Controls equipment  
Dampers  
Dehumidifiers  
Dryers  
Diffusers  
Ductwork & pipe junctions  
Evaporators  
Fans & motors  
Filters and filtration equipment  
Fire & smoke control equipment  
Flow meters  
Freezers and freezer rooms  
Fume cupboards  
Gauges  
Grilles and louvers  
Heaters  
Humidifiers  
Motors  
Pressure valves  
Refrigeration equipment  
Separators  
Test instruments  
Thermometers & thermostats  
Vacuum pumps  
Valves  
Water chillers

## Customer Testimonial

*“FloEFD is a natural extension of traditional CFD that is easier to use and more intuitive for mechanical engineers.”*

G. Bertels, Senior Engineer,  
Bronswerk Heat Transfer B.V.



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**Mentor  
Graphics**

## Customer Testimonial

*"FloEFD results are easy to understand and interpret by any engineer who is already familiar with the subject-matter being studied."*

A. Heijmans, Development Manager,  
Eclipse Combustion



## Customer Testimonial

*We can show the finished design to our customer complete with how it looks and works in just one day – that's a savings of 3 weeks and thousands of euros for each model.*

H. Aaldering, Technical Director,  
JAZO



Please visit our website at:  
[www.mentor.com/mechanical](http://www.mentor.com/mechanical)

## "What-if?" Testing Made Easy

One of the most powerful features of FloEFD is the ease with which you can conduct "what-if?" analyses. FloEFD makes it simple to clone/modify your models and analyze design variations.

The process is very simple. Create your base model and analyze it. Then create multiple variations of your design by modifying the solid model without having to reapply boundary conditions, material properties etc. When the analysis is complete, FloEFD makes it easy to compare the results among the many options to choose your best possible design.

When you are satisfied with your design, publish your report at a touch of a button. You can even publish a fully interactive 3D dynamic plot and share it with colleagues or customers.

In short, FloEFD solves your HVAC problems and reduces your prototyping costs without requiring you to become an analysis specialist.

## HVAC Manufacturers Around the World Depend on Mentor Graphics' Mechanical Analysis Division for Design Optimization

AcoustiFLO	Kyushu Nissho Co., Ltd.
Aerco International	Lohberger Heiz und Kochgeräte GmbH
Aeroquip Inoac	Mann+Hummel GmbH
Air Systems Components (Titus)	Maxon Corporation
Babcock-Hitachi K.K.	Metal-Tech Partners
Cambridgeport Air Systems	MicroMetl Corporation
CertainTeed Ventilation	M-Tech GmbH
Delphi	Nittetu Kenzai Kogyo Co., Ltd.
Denios AG	NLM ECAL Co., Ltd
Dustex Corporation	S.A. Armstrong Ltd.
Dux Manufacturing Ltd.	Siegenia Frank KG
ESEC Unaxis Switzerland Ltd.	Siemens Laser Analytics AB
Gebr. Kemper GmbH & Co. KG	Silex Systems
Geo-Centers, Inc.	Stiebel Eltron GmbH & Co. KG
Halliburton Energy Services	Sumitomo Metal Mining Co., Ltd.
Heatrex Incorporated	Trox
ITW Deltar Int Components Grp	Weber Technik Werkzeugbau GmbH
Keller Lufttechnik GmbH & Co.	

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