FloEFD for Solid Edge

Facilitating rapid and accurate fluid flow and heat transfer analysis in Solid Edge

Benefits
- Embeds CFD in Solid Edge for rapid and accurate simulation of fluid flow and heat transfer
- Frontloads simulation without disrupting the design workflow, helping you examine trends and dismiss less desirable options
- Prevents data loss when geometry changes
- Delivers powerful parametric studies and design comparison functionality for easier what-if analysis

Features
- Uses native Solid Edge CAD data with no translation or fluid body creation
- Provides an intuitive user experience
- Delivers intelligent technology to help guide you through problem setup and achieve automated, accurate, fast and easy meshing
- Robust solver helps you quickly get accurate results even for highly complex geometry
- Provides real-time feedback on the progress of the solution
- Offers a wide range of visualization tools to gain insight into performance

Summary
FloEFD™ is the only computational fluid dynamics (CFD) analysis tool for fluid flow and heat transfer that is fully embedded in Solid Edge® software, and it is a premier frontloading CFD simulation tool. Frontloading refers to the practice of moving CFD simulation to a point that is early in the design workflow when it can help engineers examine and evaluate design options, dismiss less desirable options and improve productivity.

FloEFD has intelligent technology at its core to help make CFD easier, faster and more accurate. Its intuitive user interface (UI) makes FloEFD extremely easy to use. Its unique SmartCells™ technology allows use of a coarse mesh without sacrificing accuracy, and its robust mesher can easily capture arbitrary and complex geometry. As a result, the meshing process can be completely automated and requires less manual user input.

FloEFD is fast and powerful. It takes advantage of synchronous technology and uses native geometry. Users don't lose time transferring, modifying or cleaning a model, or generating extra geometry to represent the fluid domain. As soon as the model has been created it can be prepared for analysis. For effective design space exploration, users can simply create variants of their concept and analyze them immediately in Solid Edge. FloEFD is extensible with the aid of optional modules for advanced analyses, including a special module for electronics cooling applications.
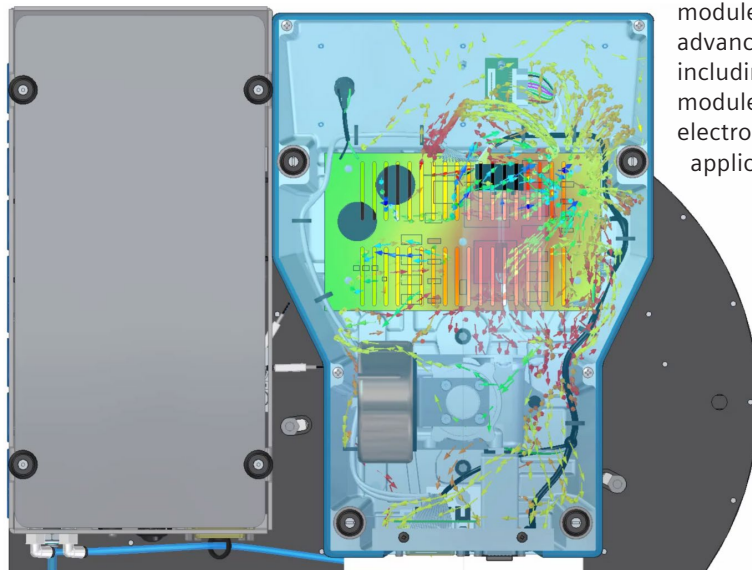
FloEFD for Solid Edge
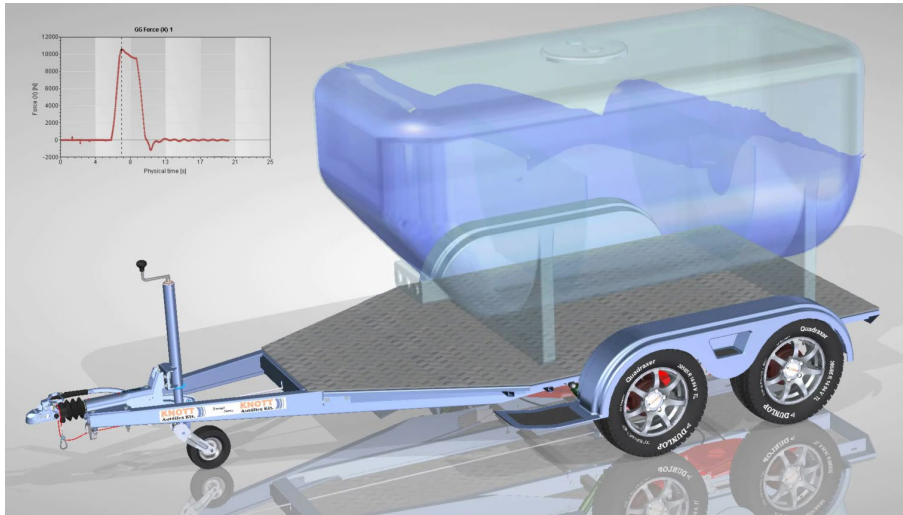
FloEFD for Solid Edge also delivers engineering outputs in a timely and intuitive manner, including reports in Microsoft Excel and Word.

Lastly, FloEFD is accurate. With a 20-year pedigree, its results have been verified by thousands of companies that use the software to solve complex fluid flow and heat transfer problems. In short, the unique technologies in FloEFD results in easy-to-use, accurate and fast CFD simulation so engineers can focus on solving design problems rather than figuring out how to use the software.

FloEFD for Solid Edge offers special capabilities with optional modules, including:

- Advanced module for special applications such as hypersonic flow for up to Mach 30 and combustion

- Heating, ventilation and air conditioning (HVAC) module for designing occupied spaces, including buildings and vehicles. It also includes special simulation capabilities, including comfort parameters and tracer studies, an additional radiation model and an extended database for building materials

- Electronics cooling module for detailed simulation of electronics systems. It includes an extended database, packaging materials and physics such as joule heating

- Light-emitting diode (LED) module for all lighting-specific simulations with the Monte Carlo radiation model, and a water film model for condensation and icing simulation of water films

- FloEDA Bridge Module for importing data from electronic design automation (EDA) software, including Siemens PLM Software (Mentor), Cadence, Zuken and Altium, as well as import materials and power maps of printed circuit boards (PCBs) and definitions of thermal territories and network assemblies (Delphi model)
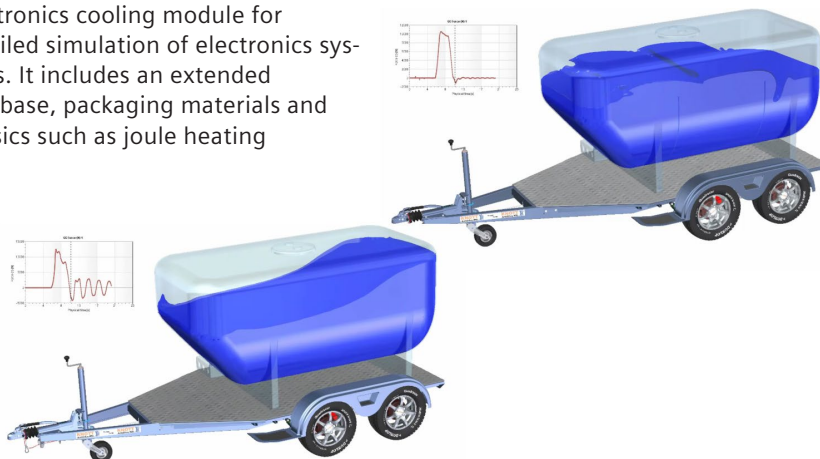
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