FloMASTER V9.0

FloMASTER V9.0 delivers the accuracy, flexibility and speed you demand

New to V9

Air Conditioning System Modeling

Building on the existing Enthalpy solver and Waste Heat Recovery system functionality, the new AC systems modeling capability enables you to model a wide range of systems, from traditional automotive and building services systems, through to more complex multiple loop, multi component systems for advanced EV cooling solutions and aerospace applications.

FloMASTER V9 provides a user friendly environment so AC systems can be designed from the earliest possible stage while being robust and requiring minimal component data. Features include:

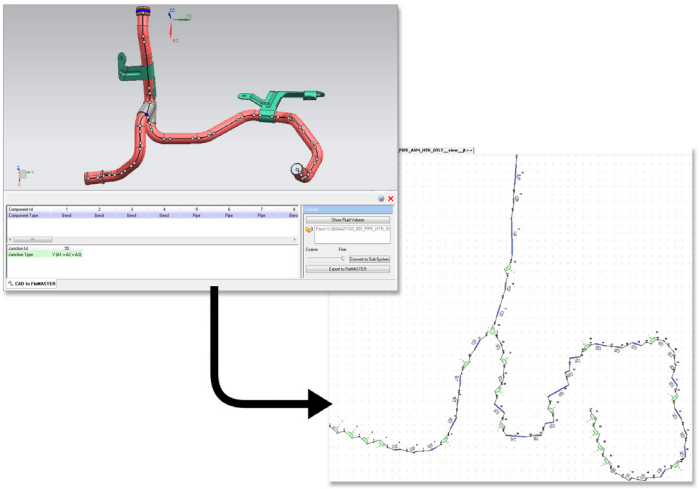
- Minimal component data for early system simulation;
- Multiple Loops;
- Multiple compressors within the AC Circuit;
- Investigation TXV and evaporator interaction; and
- System operation across a range of operating points using FloMASTER's parametric tools.

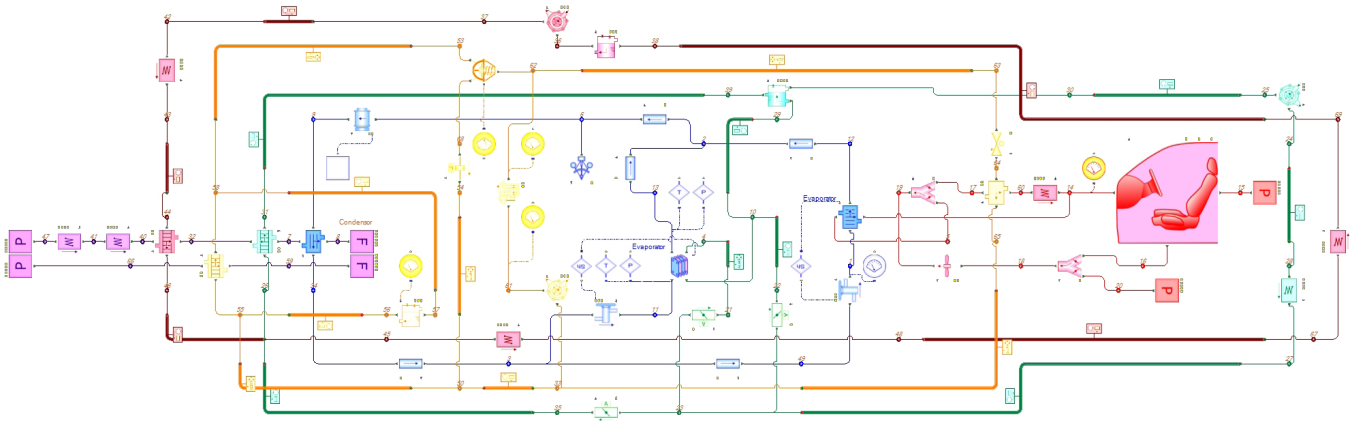
When used in combination with components in the Vapor Cycle library, additional thermal cycles such as the Transcritical Rankine, Goswami and Trilateral Flash Cycles can be modelled.

CAD to FloMASTER

The new CAD to FloMASTER (CAD2FM) functionality is a fully automated function to convert 3D MCAD piping geometry into an equivalent FloMASTER sub-system, bypassing data re-entry errors and compressing the time required for such a conversion from hours to minutes.

CAD2FM can be used directly from within the CAD environment (Siemens NX and Solid Edge, PTC Creo and Dassault CATIA V5) and allows you to control the fidelity level of the abstracted models as well as the number of FloMASTER components created to represent the piping geometry for efficient thermo-fluid simulation.





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N-Arm Component

The scripted N-Arm component allows you to create custom components based on your own IP. The N-Arm component characterizes the hydraulic and thermal behavior of the component. The capabilities of the N-Arm include:

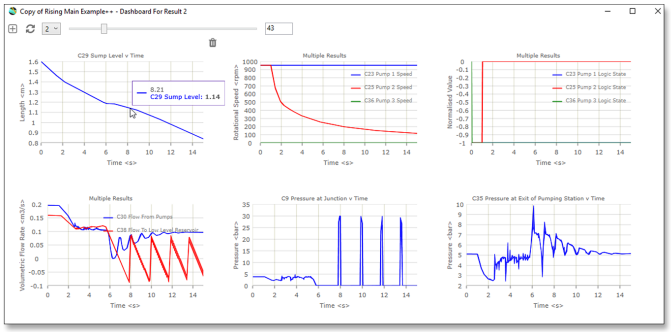
- Up to 45 fluid arms;
- Five signal inputs;
- Customizable Data forms;
- No requirement for the user to linearize the equations behind the fluid behavior; and
- Running with all FloMASTER simulation types and fluid models.

The addition of signals and the writing of custom results in FloMASTER V9 extend the N-Arm capabilities allowing a full range of behaviors to be modelled.

User Experience

A number of new functionalities have been added to FloMASTER V9 to make it a powerful and robust System of Systems application with a Designer Level user experience

- **Results Post-processing**
  - Review results at a glance in the new dashboard and Gas Turbine viewer
- **Schematic Annotation**
  - Highlight area of interest by drawing lines and shapes
- **Three new Sample Systems**
  - Automotive AC
  - Pipe Line Systems
  - Marine Cooling Systems
- **New output parameter**
  - Allows for monitoring of parameters at the end of a run



"Using FloMASTER, TBR17 was able to model and optimize the cooling and lubrication systems of their Formula Student car. They achieved a 13% reduction in radiator face area as a result, with 16.8% greater accuracy than previous models.
Design efficiency is key over our short 18 month design and manufacture cycle, and TBR19 is looking forward to using the new CAD2FM package to provide vital timesaving and design flexibility."

Joe Willey, Project Manager, Team Bath Racing 19