Flowmaster V7 for Plant and Piping Applications
Flowmaster V7 is a thermo-fluid system simulation tool that allows engineers to design, optimize, validate and troubleshoot plant, process and piping system designs. The wide range of solver capabilities and supplied loss and performance data enables users to build models and run simulations quicker and easier than ever before.

Within the Plant & Piping industry, the need to design safe, reliable and efficient systems across a range of applications is of paramount importance. Flowmaster V7 provides system engineers with a powerful tool to investigate pressure surge, pressure drop, flow rate, temperature and system response times – removing the uncertainty from fluid flow systems.

Flowmaster V7 is used by leading plant, process and piping organizations, such as ABB Eutech, BASF AG, BP Chemicals, Corus, DOW Chemical, E.ON Engineering GmbH, Foster Wheeler, Mitsubishi Chemical Corporation, Siemens AG and Shell UK Expro.

Flowmaster V7 Modeling Packages
Flowmaster V7 is available in a number of scalable packages:

Incompressible Systems
Designed as a solution for a wide range of liquid-only systems, this package provides incompressible modeling functionality and the ability to run steady state or transient analysis. Systems that can be modeled include:

- Pressure Surge Analysis
- Hydraulic Systems

The optional Heat Transfer solver capabilities can be included with the Incompressible Systems package which enables the following systems to be modeled:

- Cooling Systems
- Lubrication Systems

Compressible Systems
Designed as a solution for a wide range of gas-only systems, this package provides compressible modeling capability for steady state or transient analysis. Systems that can be modeled include:

- Gas Transmission
- Gas Feed Systems

Fluid Systems
This comprehensive systems package includes Compressible, Incompressible and Heat Transfer modeling capabilities. Ideally suited for companies that design different types of fluid systems or consultancies that need flexibility to offer a full range of system modeling and analysis services. For example:

- Plant Auxiliary Systems
- Offshore Platforms

Cooling Systems • Fire Suppression Systems • Pressure Relief Systems • Surge Suppression Systems • Transportation & Distribution •
Key Modeling and Simulation Features in detail:

System Modeling
- **Large library of component models** underpinned by empirical research data, including Loss Data from [DS Miller](#).
- **Smart Modeling tools** which help prevent users from connecting incompatible components and use color coded data entry fields to highlight required information.
- **Flow balancing module** for optimizing component sizes around your system providing valuable cost savings and promoting greater performance efficiency.
- **Custom component creation** for developing a catalogue of components and sub-systems specifically for an organization, including images to represent the component in the model.
- **Transient and steady state** simulation of compressible and incompressible systems with [Heat transfer](#) analysis options.

Design Collaboration & Secure Data Management
- **Audit trail & tracking** of model history functionality keeps track of design changes and associated data, offering the user the ability to ‘roll back’ to previous versions to quickly compare results from different designs, saving valuable modeling time.
- **User group administration tools** allowing for the creation of project teams with difference access privileges to project data.
- **Securely store legacy data** in an industry standard relational database. Store, share and track data securely, allowing for greater collaboration across project teams.

Ease of Use
- **Intuitive graphical user interface** featuring validated data entry, reducing margin for error; optimizing accuracy of results first time.
- **Advanced design visualization** tools including the ability to add background images and use layers to help both users and non-users understand complex systems.
- **Dynamic real time color visualization** shows pressure and flow rate changes on charts and by component color changes as a simulation runs.
- **Flexible post-processing tools** allow results from multiple simulations to be compared easily in the time and frequency domain.
Integration

- Using Flowmaster V7 open APIs you can integrate with product development tools and systems, including optimization codes modeFRONTIERTM and iSIGHTTM. Automate tasks using Flowmaster’s automation capabilities to batch run parametric studies and prototype digital testing procedures.

- Co-simulate with other leading CAE/CFD tools such as MATLAB®, STAR-CD, FLUENT® to optimize overall system performance and aid component development and selection.

“Flowmaster is the right tool to solve problems which have a high impact on the safety and reliability of a plant and cannot be solved by most other solutions.”

— Jürgen Bohle, Lurgi GmbH

Our Customers include