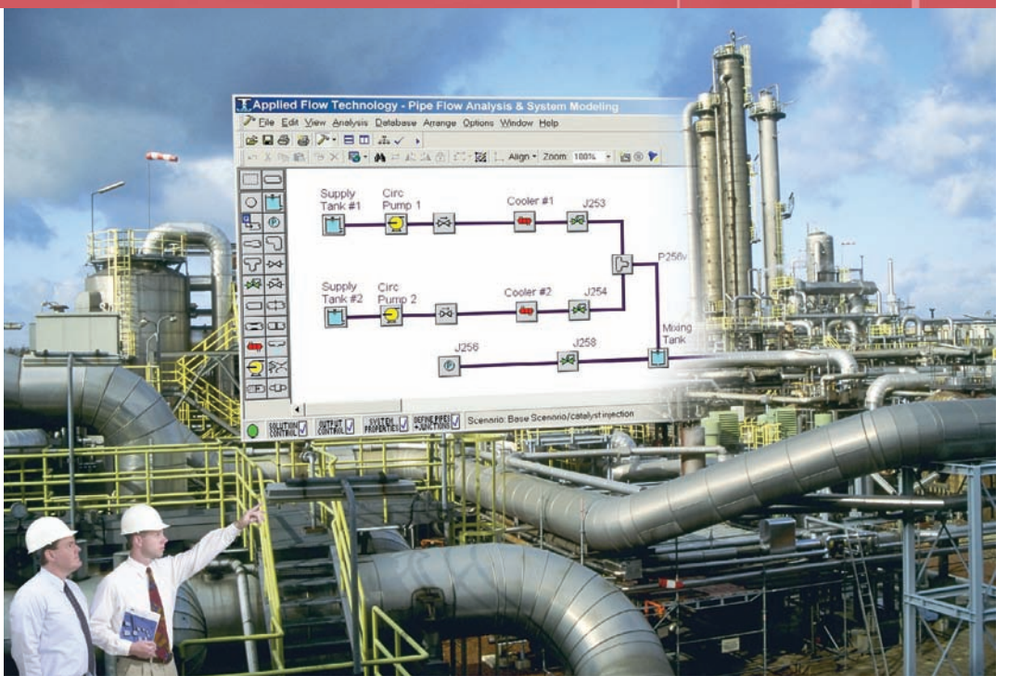
AFT Impulse 4.0

Waterhammer Modeling in Piping Systems

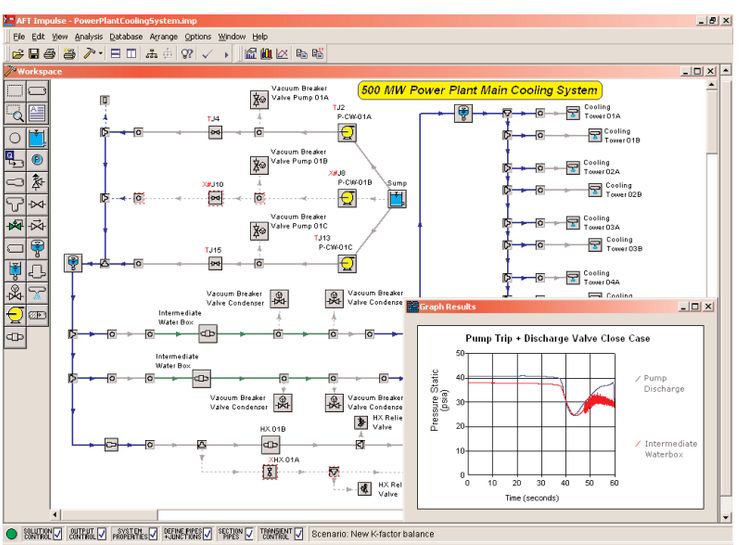


Waterhammer analysis tools of the past have been noted for being difficult to use and requiring extensive specialized knowledge. As a result, this critical aspect of piping system design and operation has often been overlooked. But no longer. Now *AFT Impulse™* offers the ease-of-use of a drag-and-drop interface and built-in waterhammer modeling expertise. *AFT Impulse* helps you design and operate your systems with greater reliability and safety by avoiding the potentially catastrophic effects of waterhammer and other undesirable system transients.

A Tool for Specialists and Non-Specialists

Piping systems engineers typically do not have the time to become specialists in waterhammer modeling. Now they don't have to. Now they can be equipped with the proper tools to design and analyze for waterhammer transients in liquid systems containing water, petroleum and chemical products, cryogens, refrigerants and more. Waterhammer specialists will find a no-compromise tool capable of modeling a broad range of waterhammer events, including transient cavitation and various surge suppression devices.

AFT Impulse provides a built-in library of fluids and fittings, variable model configurations, pump and control valve modeling and much more. Scenario Manager raises the what-if potential of waterhammer modeling to a new level. Multiple system configurations varying by any modeling parameter are easily managed within a single model file with a familiar hierarchical interface. Changes in the base model are automatically inherited by alternate design cases.



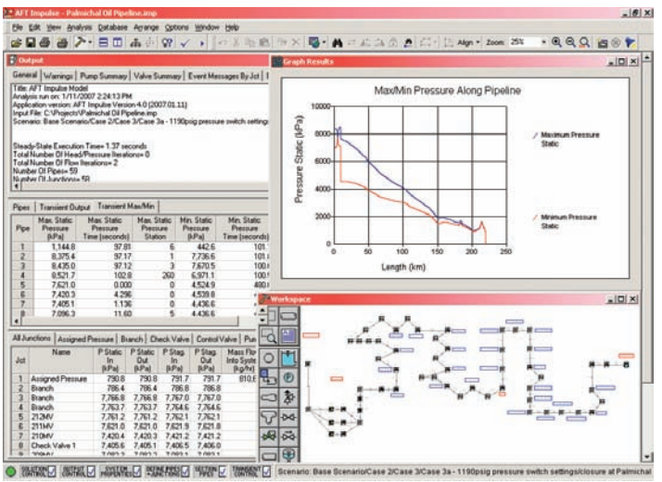
Analytical Power on Your Desktop

AFT Impulse incorporates a steady-state solver providing seamless transfer of initial conditions to the transient analysis. The traditional Method of Characteristics is employed to solve the transient mass and momentum equations of pipe flow. Modeling vapor cavitation and liquid column separation, the effect of pressure surges due to vapor cavity collapse may be evaluated. Modeling tools for a wide range of system components and surge devices are included. Transients can be initiated based on time or on events in the system. For example, a valve closure transient may be initiated when a specified liquid level is attained in a tank. Time varying hydraulic forces can be calculated, graphed and exported for use in pipe stress analysis tools. From the powerful drag-and-drop model building features to the fully customizable output, *AFT Impulse* is a powerful tool ready to tackle your most demanding design problems.

Applied Flow Technology

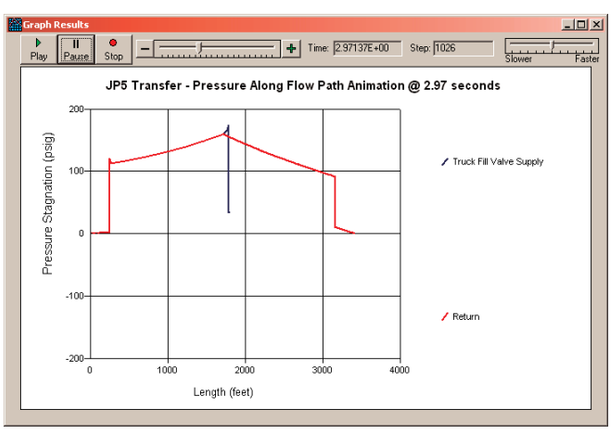
Dynamic solutions for a fluid world.™

AFT Impulse 4.0



New in Version 4.0

- Create transient force files for import to CAESAR II® pipe stress software.
- Create pipe force vs time graphs.
- Enhanced fittings & losses entry for pipes.
- Model Data window displays input data for current scenario and ancestor scenarios with differences between scenarios highlighted.
- Significantly enhanced global pipe and junction editing.
- Create batch runs for scenarios.
- Undefined objects list added showing missing properties.
- Workspace selections can be rotated.
- Power Law and Bingham Plastic non-Newtonian methods cover both turbulent and laminar regions.
- Run time estimates based on previous runs providing a more accurate estimate based on actual computer speed.



Applications

Identify Pressure Extremes

With its extensive output reporting, *AFT Impulse* clearly identifies when and where maximum and minimum pressures occur.

Model System Operation

For systems you're designing, you'll find *AFT Impulse's* simulation capabilities an efficient way to experiment with operating conditions and scenarios. For systems you're operating, the benefits of an *AFT Impulse* simulation also include convenience and safety. Able to quickly and easily change system configuration and conditions, including valve positions, pump operation, control set points, pressures, temperatures and more, an AFT Impulse model gives you the freedom to determine the best and safest operating procedures.

Understand the Transient Response of Your System

Knowing how the numerous valves, pumps and other components in your system will dynamically react with each other provides key insight to improving your design and avoiding catastrophic failures.

Size and Locate Surge Supression Equipment

Knowing you need surge suppression equipment is only the beginning. To be effective, it must be properly sized and located. With its flexible graphical interface and built-in surge suppression equipment modeling tools, *AFT Impulse* provides the capabilities you need for this critical design task.

Determine Pipe Forces

AFT Impulse can calculate time varying pipe forces resulting from hydraulic transients which can then be graphed, exported and transferred to the leading pipe stress analysis software tool, CAESAR II.

World Class Support

AFT Impulse is backed by a technical support team of engineers. More than software support, Applied Flow Technology provides the water-hammer analysis knowledge that comes with extensive real world experience.

System Requirements

- Windows 98SE and higher or Win 2000 and higher
- 64 MB RAM minimum
- 800 x 600 display minimum
- Stand-alone or network

For more information contact:
Applied Flow Technology
2955 Professional Place
Suite 301
Colorado Springs, CO 80904
USA

Phone: 800-589-4943 /
719-686-1000
Fax: 719-686-1001
E-mail: sales@aft.com
website: www. aft.com