

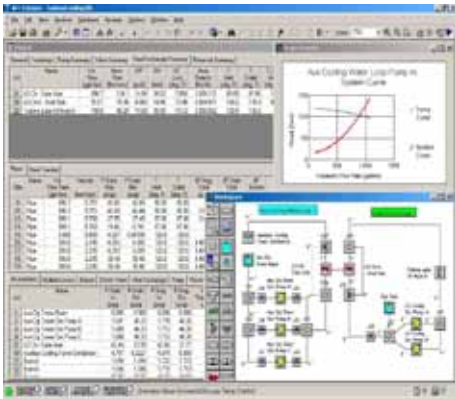


AFT Fathom 7.0

Incompressible Pipe Flow Modelling



AFT Fathom™ is the preferred pipe network analysis and system modelling software for incompressible flow systems, providing the engineer with a logical and flexible graphical interface. The days of analysing pipe networks line by line are past. More than just pipe flow analysis, AFT Fathom lets you accurately model your piping system, precisely simulating the individual system components and their interactions.



Whether you are designing new systems, modifying existing ones or analysing system operations; the ability to analyse multiple scenarios and the insight provided by an AFT Fathom model significantly improves the quality of systems engineering you can achieve, leading to less costly, more efficient and more reliable piping systems. AFT Fathom implements a wide array of features without sacrificing the engineer's need for a short learning curve and ease of use.

Optional add-on modules further expand your system modeling capabilities to include extended time simulation, design automation through goal seeking, control simulation and system costing. The optional Chempak add-on provides a thermo-physical database of almost 700 fluids.

Analytical Power with Effective Control

AFT Fathom employs a robust solver using proven matrix methods to solve the governing equations of pipe flow. The full power of this technical sophistication is readily accessible through an advanced visual interface.

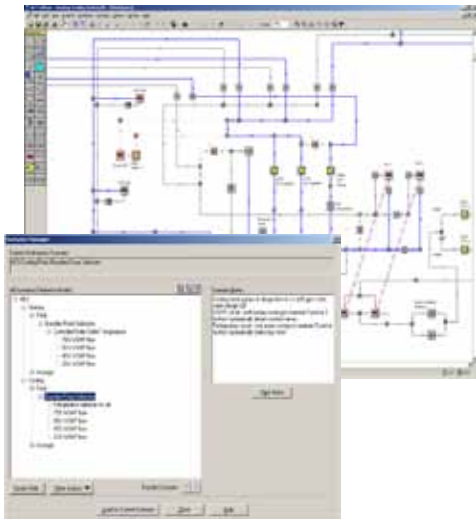
Comprehensive Capabilities

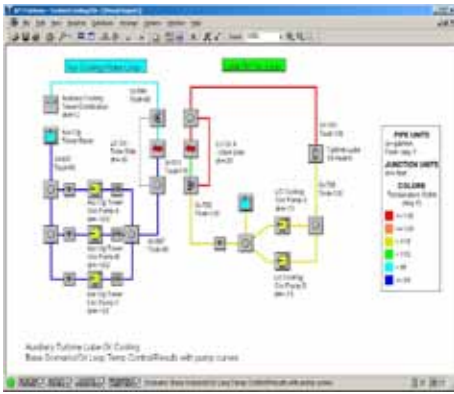
Just as the demands on your system design increase in scope, AFT Fathom 7.0, the latest version of the world's most advanced pipe flow modeling software, provides an amazingly broad scope of capabilities. Addressing open and closed loop systems, AFT Fathom includes a built-in library of fluids and fittings, variable model configurations, pump and control valve modeling and much more.

From the powerful drag-and-drop model building features to the fully customisable output, AFT Fathom becomes an extension of the engineer's mind, freeing him or her to focus on their system, not the mechanics of software manipulation. Scenario Manager raises the what-if potential of system modeling to a new level.

AFT Fathom goes beyond the boundaries of fluid flow analysis, with pump energy cost analysis, thermal analysis capabilities including piping heat transfer, heat exchanger modeling and varying fluid properties.

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.





Other software in the range includes:

AFT Arrow - Pipe and duct flow modelling for compressible fluids

AFT Impulse - Waterhammer modelling

AFT Mercury - Cost reduction through intelligent system sizing for incompressible fluid systems

AFT Titan - Cost reduction through intelligent system sizing for compressible fluid systems

AFT Chempak Suite - Thermo-physical fluid properties

Experience and Responsiveness

Confirming the proven track record of the tens of thousands of applications of its predecessors with innovative and powerful new features, *AFT Fathom 7.0* has, once again, raised the standard for pipe flow analysis and system modelling software. *AFT Fathom's* leading edge flow analysis is backed by a technical support team of engineers. More than software support, Applied Flow Technology provides the pipe flow analysis knowledge that comes with extensive real world experience.

New in Version 7.0

- Enhanced Excel™ file import including selected pipe input parameters
- Pump vs system curve shows operation with multiple combinations of pumps running
- Input graph display for pipe intermediate elevations and valve open percent, Cv and flow area
- Simultaneous display of output parameters with differing units (e.g. flow displayed in gpm and m3/hr at the same time)
- Pipe volume available as new output parameter

Applications

Pipe Sizing

AFT Fathom's extensive capabilities for friction modelling include pulp & paper and non-Newtonian fluids. The comprehensive output details the contribution of individual line losses to the overall system. Visual Report's colour coding by selected criteria clearly illustrates individual lines in the context of the entire system.

Pump Selection

Fully explore the interaction of pumps and your system. Pump modeling capability includes parallel and series pump operations, flow vs. head, NPSHA vs. NPSHR, varying pump speeds, viscosity corrections and pump power and associated energy costs.

Able to import external databases and online linking to Intelliquip™ powered pump selectors, *AFT Fathom* allows the system engineer to quickly evaluate a large range of potential pump selections.

Coupled Thermal Analysis

Modelling heat transfer across heat exchangers between multiple loops and heat transfer across pipe boundaries, including insulation effects, your cooling or heating system model becomes a comprehensive fluid and thermal analysis.

System Operation

A system's operating envelope can be fully explored by quickly and easily varying system parameters and configuration. Change the number of pumps in operation, pump speed, control valve settings, valve positions, fluid properties, virtually any modelling parameter. An *AFT Fathom* model provides a realistic and accurate representation of your system's characteristics allowing testing under a wide variety of conditions long before committing to hardware.

Control Valve Selection

With comprehensive output and ease of changing component specifications, determining control valve capacity and ensuring adequate pressure drop is greatly facilitated. *AFT Fathom* goes beyond this by simulating pressure and flow control valves so that interaction with the system can be tested in the design stage. The valve summary report displays effective Cv and K factor values for all valves in the system.

System Requirements

- Windows 98 and higher or Win2000 and higher
- 64 MB RAM minimum
- 800 x 600 display minimum
- Stand-alone or network



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Applied Flow Technology

Dynamic solutions for a fluid world.™

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