

What Our Customers Say

"The software flexibility lead to not only a greater understanding of the system, but to a field validated model that was used to solve the client's significant water hammer problem."

Jordan Grose, Beta Machinery Analysis, Alberta, Canada

"Using AFT Arrow made this project easier, cheaper and more accurate than any alternative"

Jeremiah Osborn, TruStile Doors, Colorado, USA

"In emergencies, [AFT Fathom] allows quick evaluation of scenarios and provides guidance to operating personnel."

Slava Prash, NRG Thermal Corporation, Minnesota, USA

"Using the Fathom model was much more efficient than... [physically] opening and closing valves to test scenarios. Fathom allowed one person to run tests instantaneously, which is a much more efficient use of...time and...money."

Rory Heim, Swanson Rink, Colorado, USA

"The AFT Fathom software quickly enabled "what if" scenarios to be modeled to determine compliance with the design criteria... The model could [then] be provided to an international customer who could run the model using the AFT Fathom viewer."

Geoffrey Stone, Blenray Pty Ltd, Sydney, Australia

"Being able to roll over the model [into AFT Impulse] from Fathom and edit as necessary is a great time saver. Then setting up all of the different scenarios and being able to take the results and produce graphs of the transient system, all within one program saves time and effort."

Dalton Sivils, Kiewit Power Engineers, Kansas, USA

Software Utilities



AFT SteamCalc™

Comprehensive thermo-physical properties for steam and water

- Includes over 20 steam and water properties
- Use as a stand-alone application or access it from an Excel spreadsheet



AFT Chempak™

Comprehensive thermo-physical properties for 700 fluids

- Includes over 25 fluid properties
- Fluids are listed by commonly used names, formula and chemical structure
- For both compressible and incompressible pipe flow analysis
- Use as a stand-alone application or access it from an Excel spreadsheet



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PRODUCT INFORMATION

Pipe Flow Analysis and Modeling Software



Dynamic solutions for a fluid world™



Whether you're modeling gas or liquid piping systems, perfecting your system design, studying your system's transient behavior or need fluid property data, AFT has the engineering software tools to meet your needs.

Used in over 70 countries and in almost any industry where you find piping and ducting systems, our software products have earned the respect and trust of thousands of engineers worldwide.

World class support is provided by our team of professional engineers.

For more information or to download a free demo visit us at www.aft.com

Pipe Flow Analysis & System Modeling

Evaluate new designs and improve your installed systems

- Understand your system's fluid dynamic behavior
- Simulate individual system components and their interaction
- Achieve less costly, more efficient, more reliable piping systems



AFT Fathom™ Incompressible Pipe Flow Analysis

Calculates pressure drop and flow distribution for liquid and low velocity gas piping and ducting systems

- Advanced hydraulic solver using Newton-Raphson matrix methods
- Detailed modeling for centrifugal and positive displacement pumps
- Scenario Manager to track all design variants and operational possibilities in a single model file
- Pump vs. system curve generation including individual head curves and composite efficiency
- Thermal analysis including piping heat transfer and heat exchanger modeling
- Supports Newtonian and non-Newtonian fluids
- Customizable library of fluids and fittings
- Accepts raw rheological data, generates non-Newtonian constants and raw data Scale-up models for non-settling slurries
- Estimates capital and recurring costs
- Optional Chempak add-on utility provides a thermo physical database of almost 700 fluids

Add-on Modules Available: GSC, XTS, SSL, ANS/APS



AFT Arrow™ Compressible Pipe Flow Analysis

Calculates pressure drop and flow distribution for gas piping and ducting systems

- Advanced marching methods provide highly accurate results
- Detailed modeling for fans and compressors, control valves, heat exchangers and other components
- Comprehensive and highly accurate choked flow calculations
- Compressor and fan energy cost analysis
- Thermal analysis including piping heat transfer and heat exchanger modeling
- Scenario Manager tracks all design variants and operational possibilities in a single model file
- Customizable library of gases and fittings
- Optional Chempak™ add-on utility provides a thermo physical database of almost 600 gases that lets you define non-reacting pre-mixtures, and simulate dynamic flow mixing

Add-on Modules Available: GSC, ANS/APS

Waterhammer & Surge Analysis

Design and operate your system with greater safety and reliability

- Avoid potentially catastrophic effects of waterhammer and other undesirable system transients
- Alleviate possible financial and environmental issues associated with inadequate system designs or operational procedures
- Avoid lost revenue resulting from incidents that cause down time



AFT Impulse™ Transient Analysis

Calculates pressure transient events in piping systems caused by waterhammer

- Advanced transient solver based on Method of Characteristics
- Built-in steady-state solver to automatically initialize waterhammer transient
- Detailed pump inertial modeling for trips and start-ups including state-of-the-art, four quadrant methods
- Models transient cavitation and liquid column separation
- Scenario Manager to track all design variants and operational possibilities in a single model file
- Integrated graphing and reporting
- Animation features to dynamically graph transients
- Built-in intelligence to guide you in building better models
- Analyze waterhammer effects on systems containing non-Newtonian fluids with either settling or non-settling slurries

Add-on Module Available: SSL



Add-on Modules

Further extend your modeling capabilities with these effective tools

Goal Seek and Control (GSC)

Extend your ability to evaluate the effects of changing system parameters such as pumps, valves, heat exchangers, fans/compressors and more

Extended Time Simulation (XTS)

Extend your modeling capabilities into the time domain by performing a series of steady-state solutions with variables changing automatically to achieve a dynamic simulation of your system

Settling Slurry (SSL)

Accurately account for slurry properties, changing concentrations and pump performance to avoid system failures and excessive operational costs

Automated Sizing (ANS/APS)

Achieve significant cost savings in your systems designs

- Minimize the initial cost or operating costs of your system
- Meet specific design parameters of your system
- Understand what really drives your design

Automated Network Sizing (ANS)

Automate your system design to size pipes and components based on weight, volume or monetary costs. Monetary costs can include initial costs as well as life-cycle costs such as maintenance and energy use

ANS is designed for piping networks of any size and complexity

Automated Pipeline Sizing (APS)

Same capabilities as ANS but it is designed for single path pipelines

Module Availability	AFT Fathom	AFT Arrow	AFT Impulse
GSC	Yes	Yes	
XTS	Yes		
SSL	Yes		Yes
ANS/APS	Yes	Yes	