

AFT Arrow Tutorial Onsite Training

Duration:

2 Days

9:00 am - 6:00 pm

1 hour lunch break

Min 4 pax to start an onsite privacy training course

Focus:

To provide an immediate experience with hydraulic pipeflow solutions by using AFT Arrow. It is primarily for people who are interested in starting up with Arrow now but have little or no experience with the Arrow. Tutorials will be started from introduction of AFT solutions and hydraulic solution methodology with simple examples. After these examples, select other examples that most closely matches your applications. The examples are arranged in order of increasing complexity.

Prerequisites:

- Basic literate in Windows 98 or Win ME or Win2000 or similar.
- Basic understanding in fluid dynamic, thermodynamic and heat transfer.

Agenda:

- A1. Overview of AFT Arrow
- A2. Fundamental Equations of Compressible Flow
- A3. Demonstration Problem - Determining Delivery Conditions
- A4. Understanding Solution Control Options
- A5. AFT Arrow Hands-On Walk through Tutorial Modeling
- A6. Troubleshooting AFT Arrow Models
- A7. The Five Primary Windows
- A8. Pipe and Junction Details
- A9. Special Topics
- A10. Verification of Solutions
- A11. Using Scenario Manager
- A12. Customizing Arrow and Using Databases
- A13. Introduction to AFT Arrow Modules
- A14. More AFT Arrow Hands-On Modeling

Selective Tutorials:

- 1) Air Heating System: In-depth discussion of model building in AFT Arrow. Solves an air heating system problem.
- 2) Flow Through an Orifice: This example demonstrates a sample calculation to determine the maximum flow through a system where sonic choking occurs, as well as the sonic pressure and area, and it explores the affect of CdA on the system flowrate.
- 3) Control ValveSteam: This example demonstrates a calculation to determine a pipe size for a control valve system. Steam will be flowing from one reservoir to another. The pipe must be sized correctly to allow the required system flow and pressure drop across the flow control valve.
- 4) Compressed Air System: This example demonstrates how to calculate heat transfer in a system. For this example, a range of system conditions is specified, and the resulting range of system outlet temperatures is determined. Use of the Scenario Manager is covered.
- 5) Natural Gas Burner: This example demonstrates how to size a heat exchanger to deliver natural gas at a minimum required temperature.
- 6) Process Steam System Steam: This example demonstrates how to determine the minimum delivery pressure of a process steam supply system.
- 7) Hydrocarbon Process Relief System: This example demonstrates how to determine the relief capacity of a system, where sonic choking occurs, and the pressure drop across a shock wave. It also shows how to use Chempak to create a custom fluid mixture.
- 8) Refinery Relief System: This example demonstrates how to evaluate an emergency relief system for relief capacity, and the mass and mole fraction of a discharge mixture. It also demonstrates the use of Scenarios, and the Global Junction Edit feature.
- 9) Air Blower Sizing: The example demonstrates how to size a blower for an air distribution system, and evaluate the affect of different blower efficiencies on the blower size.