

Course Fee: US\$450

Because vibration can cause critical operating problems in heat exchangers, it is important to analyze the potential for flow-induced vibration.

This workshop teaches you how to develop an input file, interpret results, and obtain accurate prediction of the vibration potential for installed units. Using *Xvib* you'll practice determining if a heat exchanger is susceptible to vibration damage.

Key Topics

- Analysis methods for fluidelastic instability and vortex shedding
- Velocity profile development
- Vibration susceptibility

Suggested Participants

Engineers responsible for the mechanical condition of shell-and-tube heat exchangers

HTRI Software

This course will make use of the following HTRI software: *Xchanger Suite*[®] components *Xist*[®] and *Xvib*[®]. All training materials are based on the current software version.

Course Credits: 6 hours (PDH/CEU)

Outline

- I. Fundamentals of Vibration Analysis
 - Introduction
 - Vortex shedding
 - Fluidelastic instability
- II. Getting Started with *Xvib*
 - Purpose of *Xvib*
 - Data input
 - Build a case in *Xvib* using *Xist* results
- III. *Xvib* Calculations
 - Calculation approach
 - Compare *Xist* vibration analysis with *Xvib*
 - Guidelines to implement the velocity profile
 - Build an *Xvib* case
- IV. Straight Tube Analysis
 - Interpret *Xvib* reports
 - Guidelines to assess vibration severity
 - Analyze process condenser with parallel baffles
- V. U-Tube Analysis
 - Discuss U-tube configurations
 - Analyze vibration potential for U-tube exchangers
 - Analyze an H-shell with no baffles