Winners of the highly competitive SBIR PHASE II Awards

National Science Foundation Directorate of Engineering Education

Interactive Flow Studies is dedicated to support and enhance learning through the use of state of the art technology.

Interactive Flow Experiment and FLOWEX™ software are used as tutors and they serve to increase basic skills and knowledge of fluid mechanics.

Interactive educational PIV, CFD & CAD technologies are used as tools that can be applied to a variety of goals in the learning process and can serve as a resource to help develop higher order thinking, creativity and research skills.

See a Demo of FLOWEX™ at www.interactiveflows.com

National Science Foundation
WHERE DISCOVERIES BEGIN

Educational Interactive Flow Visualization & Analysis System

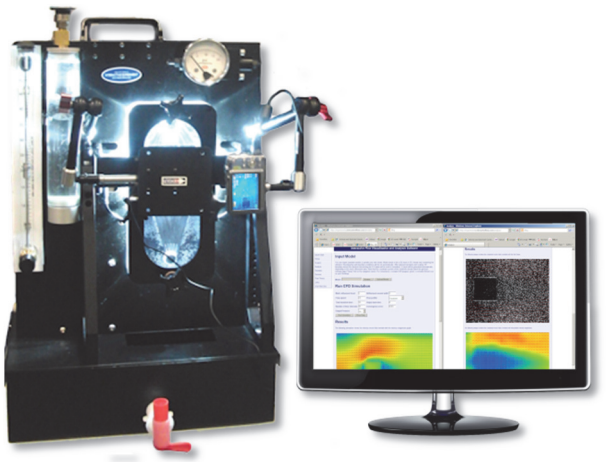
An interactive experimental study of fluid mechanics using state of the art technologies. Explore the highly visual nature of fluid flow using many standard or custom flow models interactively and safely with Patented Interactive Experiment and user friendly FLOWEX™ software which integrates Educational Computer Aided Design (CAD), Computational Fluid Dynamics (CFD), and Particle Image Velocimetry (PIV).

FLOWEX

Interactive Flow Studies
flowex@interactiveflows.com
www.interactiveflows.com

FLOWCOACH

FLUID MECHANICS



Teach 21st Century Knowledge & Skills

Interactive Flow Studies
Technology In Science Education & Research

FLOWCOACH

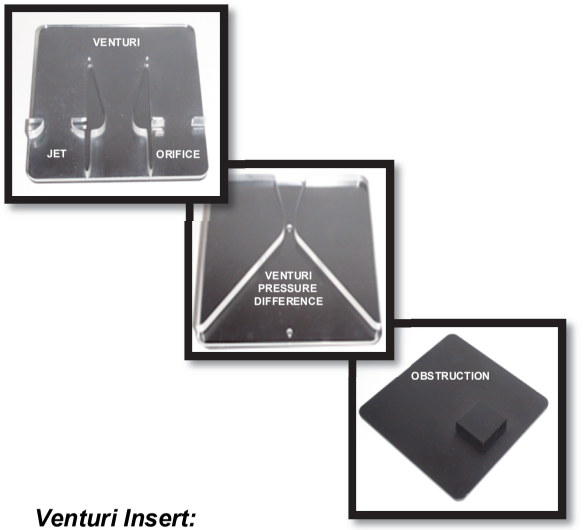
- Particle Image Velocimetry (PIV) is a measuring technique to capture flow velocity. Small particles are added into the fluid, and their movements are measured by comparing two images taken within a short time interval of the flow field using cross correlation.
- Interactive system with integrated PIV, CFD, CAD features promotes higher order thinking skills of students.
- The patented versatile Interactive Flow Experiment is a very robust instrument, specifically designed with the student in mind.
- Fluid mechanics principles can be studied with many different flow model inserts.

Dimensions: 10“ x 16“ x 20“
Weight: 30 lbs

HARDWARE FEATURES

- Laminar & Turbulent Flow Visualization.
- Velocity Measurement with PIV.
- Flow Rate & Pressure Measurement.
- Interchangeable Flow Model Inserts.
- User can design custom Flow Models.
- Change between foamy water to clear water dynamically during experiment.
- Add or remove air bubbles dynamically during experiment for flow visualization.
- Add seeding for flow visualization & PIV.
- Self cleaning flow model.
- Portable with cart option.
- Variable Flow Velocity.
- Integrated Camera.
- Add color.

STANDARD FLOW INSERTS



Venturi Insert:
Re = 25,000 at 5 mm x 5 mm cross section.
Re = 3,000 at 80 mm x 5 mm cross section.
Based on water with valve fully open.

SOFTWARE FEATURES

FLOWEX

- Integrated PIV & CFD analysis
- Integrated CAD for CFD models
- Web based
- Export results
- Fully interactive
- No setup required
- Works with all PCs
- Flow theory explanations
- Capture flow video and images
- Multiple PC capable for Team Study

See a Demo of FLOWEX™ at www.interactiveflows.com