

Product Name :
Astra Scientific Particle Drag Coefficients

Product Code :
Fluid Mechanics Lab0026



Description :

Astra Scientific Particle Drag Coefficients

Technical Specification :

DESCRIPTION:

The Viscosity and Particle Drag apparatus is a simple falling-sphere viscometer. The self-standing unit holds two glass tubes filled with the test fluids, for comparisons and to minimize draining and refilling of the fluids after experimentation. The back plate has a low-voltage backlight so students can easily see the test spheres through the fluid.

Students fill the two tubes with their chosen test fluid, and then select a sphere of the correct density and size for the fluid. They drop the sphere into the test fluid at the top of the glass tube. They then use a stopwatch (included) to measure the time taken for the sphere to fall a set distance down the tube.

When the test sphere reaches the bottom of the tube it enters a valve

that the students turns, dropping the sphere into a collection vial for recovery. The valve system minimizes the fluid loss from the tube and helps when draining the tube after the tests are complete.

Students may also make their own use shapes to test in the unit. The shapes must fit through the valve at the base (maximum 8 mm in any single dimension). Suitable test fluids include water, thin machine oil, castor oil and motor oil. The apparatus can be used with any fluid that can be safely handled and is chemically compatible with the wetted parts of the equipment – glass and PTFE.

FEATURES:

- This module is mounted on an anodized aluminum structure with painted steel panel.
- Observation of laminar, transition and turbulent flows.
- Association of laminar, transition and turbulent flows with their corresponding Reynolds number.
- Observation of the parabolic velocity profile.

SPECIFICATIONS:

- Methacrylate test pipe with an airfoil-shaped inlet section:
- Inner diameter: 16 mm. External diameter: 20 mm. Length: 750 mm.
- Water supply tank with level fitting and connection for its feeding. It has a section that makes it possible to generate a constant pressure at the tank inlet. Capacity: 2.4 ltr.
- Dye or vegetable coloring tank with a valve and an injection needle, tank capacity: 0.4 ltr.
- Coloring matter injection is regulated with a needle valve. Control valve to adjust the water flow in the experiments. Easy and quick coupling system built-in.



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