

DRAG CO-EFFICIENT APPARATUS (EE-1651)

DESCRIPTION

The apparatus has been designed to introduce students to the fundamental characteristics of the behaviour of the particle system, in particular the relationship between the drag coefficient of falling particles and Reynolds number. Particles covering a range of sizes and densities are supplied and the experiments are conducted by allowing single particles to fall through a number of different liquids contained in a vertical glass tube. The rate of fall of the particle is determined by timing their passage between two marks on the walls of the glass tubes. Observation of the particle movement is aided by the provision of a shielded fluorescent tube light mounted on the backboard. Particles can be removed from the bottom of the tubes without the necessity of draining the liquid. A valve system is provided at the bottom of each tube to allow the particles to be removed with the minimum loss of liquid.

SCOPE OF EXPERIMENTATION

- To measure the drag Coefficient and verify Stokes Law.
- To plot the graph between drag coefficient Vs. Reynolds number.
- To study the motion of a solid particle through a liquid.

UTILITIES REQUIRED

- Electricity supply 100 watts, 220 V, 1 Phase.
- Floor Area 0.75 m x 1.5 m.
- Liquids of different viscosity.



TECHNICAL DETAILS

- Tubes : Material Borosilicate Glass tube (3 Nos.)
- Gate Valves : 6 Nos. (2 Nos. on each Tube)
- Stop Watch : Electronic.
- Instruction manual : An ENGLISH instruction manual will be provided along with the Apparatus
- Steel and glass balls of different sizes will be provided.
- The whole set-up is well designed and arranged in a good quality painted structure.