



Drag Coefficient Apparatus (SMT-FM-21)

The apparatus has been designed to introduce students to the fundamental characteristics of the behaviour of particle/fluid systems, in particular the relationship between the drag coefficients of falling particles and their Reynolds' number value. Particles covering a range of sizes and densities are supplied. The experiments are conducted by allowing single particles to fall through a number of different liquids contained in vertical Transparent tubes. Blockage effects are reduced to a minimum as the largest particle used has a projected area of only 1% of the tube cross-section. The rate of fall of the particles is determined by timing their passage between two marks on the walls of the glass tubes.

TECHNICAL SPECIFICATIONS

Specifications:

- Two transparent vertical glass tubes, back lit by a fluorescent lamp for ease of viewing.
- Guide to aid the insertion of particles at the top of the tubes.
- Sliding valves to aid the removal of particles from the bottom of the tubes.
- The equipment is supplied with sets of spheres of different sizes and materials, plus two streamlined shapes.

Technical Data:

- Panel with back lit by a fluorescent lamp.
- Transparent Tubes:
 - Material: PMMA
 - QTY=02
 - O.D =75mm
 - I.D =79MM
 - Length = 1m
- Weight: 25kg Approx.

Experimental Data:

- Influence of the following parameters on the settling velocity of spheres:
 - diameter of the sphere
 - density of the sphere
 - density of the fluid
 - viscosity of the fluid

