Osborne Reynolds Apparatus (Vertical) (EDC-FM-107)

EXPERIMENTAL DATA:

- Demonstration of transition between turbulent and laminar flow
- Determination of transition Reynolds number and comparison with accepted values

DESCRIPTION:

This experimental unit consists of a precision-bore glass pipe held vertically. The constant head tank is made of transparent acrylic. This allows the students to see the flow clearly. Water enters a constant head tank (reservoir) above the test tube and passes through a stilling bed. It then passes through a specially shaped bell-mouth into the test tube. This arrangement ensures a steady, uniform flow at entry to the test tube. A thermometer measures the temperature in the constant head reservoir.

A fixed overflow pipe in the reservoir connects to a suitable drain. At the bottom of the test pipe is a valve which controls the flow rate through the pipe, without disturbing the flow.

Students collect a known quantity of water in a measured time to find the flow rate. Included is a measuring cylinder. To see the pattern of flow in the pipe, students use a dye injector (included). They use it to inject a fine filament of dye into the top of the tube.

The base of the apparatus has adjustable feet for levelling prior to use with the included levelling device.

TECHNICAL DATA:

- Constant Head Tank: 2L
- Acrylic Tank for enhanced visualization
- Precision Bore glass tube: 700mm Length
- Valve for variable flow rate
- Ink Tank: 250mL

DIMENSIONS AND WEIGHT:

L x W x H (mm): 450 x 300 x 1500

Weight: 12 kg

SCOPE OF DELIVERY:

- 1 x EDC-FM-107
- 1 x Levelling Device
- 1 x Instructional Manual