

OSBORNE REYNOLD'S APPARATUS HB100J



1 study

Features

- Utilises a glass bell mounted tube to allow easy viewing
- Gate valve for flow rate control
- Dye injection system to aid visualisation

Description

The HB100J is used for the illustration and investigation of Laminar and Turbulent flow with the active flow visible thanks to a dye injection system and a glass bell mouth tube to allow easy viewing of the flow patterns.

The flow rate of the water is controlled via a gate valve on the outlet which allows fine control. Varying the flow rate alters the flow from laminar to turbulent. The flow is created by a tank mounted around the bell mouth entry. The large capacity, even, water entry system in the base of the tank and the design of the bell mouth intake ensures laminar entry conditions into the tube.

A thin hypodermic needle extends into the inner tube and is connect to a header tank containing dye. When the dye is allowed to flow down this fine tube and is injected into the water stream it highlights the flow characteristics (aided by a UV tube mounted on the tube). It is then carried away by the flowing water, illustrating clearly the laminar or turbulent nature of the stream.

Related laws

- Osbourne Reynolds

Learning capabilities

- Investigation of laminar and turbulent flow patterns
- Transitional flow characteristics
- Calculation of theoretical flow rates for Reynolds numbers for each flow region and comparison with actual results.

Technical Specification

- Source header tank: 9.5 litre capacity (approx.)
- Dye header tank 100ml capacity with flow adjustment rod
- Levelling feet and level indicator supplied
- Luminous dye supplied
- Non corrosive materials used throughout
- UV lamp mounted on glass tube
- Thermometer for calculating dynamic viscosity of water

Essential Ancillaries

- HB100/230
- or
- HB100/115

What's in the Box?

- Experimental module
- Stopwatch
- 250ml beaker
- Thermometer
- Drain Dye
- Drain hose
- Dye injector

Weights & Dimensions

- Weight: 20 kg (Without water)
- Length: 360mm
- Width: 280mm
- Height: 1160mm

Essential Services

- HB100/230
- or
- HB100/115

Ordering information

To order this product, please call PA Hilton quoting the following code:

HB100J

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