FREE & FORCED VORTICES
HB100A

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study

Features
- Bench mounted unit
- Water capacity - Forced = 5litres, Free = 9 litres
- Smart peed controller

Description
The HB100A Free and Forced Vortices unit enables students to easily investigate the concept of vortices. The apparatus allows a clear 360° view of the experiment, along with no visual refractory interference thanks to its single skin clear plastic tank. A pure forced vortex is produced by spinning the tank via an internal motor controlled by a “smart” front mounted speed controller which responds to accidental interference of the spinning tank to ensure student safety. Interchangeable free vortex orifices allow investigation of different sized free vortices. Measurement of the different profiles is achieved with a digital sliding horizontal scale and a precision engraved needle point rod allowing an infinite degree of measurement points to be achieved. The apparatus operates from the atop the HB100 Hydraulics bench base unit.

Related laws
- Bernoulli’s theorem
- Irrational flow
- Turbulent flow
- Vector Analysis
- Helmholtz’s Theorem

Learning capabilities
- • Determination of the surface profile and radii of various size free and forced vortices.
- • Determination of total head variation of a free and forced vortex.
- • Comparison of results with theoretical predictions.

- • To be able to visually demonstrate the secondary flow at the base of a free vortex.

Technical Specification

- A bench mounted unit
- Water capacity - Forced = 5litres, Free = 9 litres
- Smart peed controller

Essential Ancillaries

- HB100/230
- or
- HB100/115

What’s in the Box?

- Experimetal Module

Weights & Dimensions

- Weight: 7.1 Kg
- Length: 270mm
- Width: 350mm
- Height: 546mm

Essential Services

- HB100/230
- or
- HB100/115

Ordering information

To order this product, please call PA Hilton quoting the following code:
HB100A