

CENTER OF PRESSURE MODULE HB100F



1 study

Features

- Bench top unit
- Comes complete with graduated scale
- Set of calibrated weights and a hanger supplied for testing and counter balancing

Description

This Hydraulics Bench module allows students to determine the static thrust exerted by a fluid on a submerged surface and compare actual results with theoretical. Based around a water tight transparent rectangular tank, mounted on levelling feet, a sealed quadrant is suspended below a horizontal balance arm which pivots on a knife edge which coincides with the centre of radius of the quadrant. This ensures that only the force on the rectangular end face of the quadrant gives rise to a moment about the knife edges when the quadrant is immersed. The knife edge is mounted onto the rim of the tank, and integral to the balance arm is a movable balance mass which can be rotated into position to ensure equilibrium. At the other end of the balance arm is a suspended load hanger onto which calibrated weights can be added. Scales on the side of the float allow the monitoring and recording of the immersion depth. This module does not require the HB100 Hydraulics Bench. Although the water from the HB100 can be used to fill the tank of the HB100F. To release water and change the water height, water can be drained back into the HB100 by using the tap on the side of tank, thus keeping a closed system.

Related Laws/Applications

- Ship building
- Maritime structures
- Chemical engineering
- Tank design

Learning capabilities

- Pressure distribution in a liquid
- Pressure Centre of the hydrostatic pressure and determination of the resulting compression force
- Theoretical and experimental comparison

Technical Specification

- Tank capacity: 6 litres (approximately)
- Counterbalance mass: 560g
- Quadrant: 180mm outer radius x 75mm wide
- 3 levelling feet and level indicator
- Calibrated weights and hanger 1N x 2, 0.1N x 10
- 1000ml Beaker
- Drain tap

What's in the Box?

- Centre of pressure apparatus - Consisting of:
- Testing Tank Assembly
- Quadrant
- Balance Arm
- Counter balance weight
- Load hanger
- 1N weight x 2
- 0.1N weight x 10
- 1000ml Beaker

Weights & Dimensions

- Weight: 5 kg (Without water)
- Length: 400mm
- Width: 200mm
- Height: 300mm

Essential Services

- Clean water source

Ordering information

To order this product, please call PA Hilton quoting the following code:
HB100F

All brand and/or product names are trademarks of their respective owners. Specifications and external appearance are subject to change without notice. The colour of the actual product may vary from the colour shown in the brochure.

Copyright © 2018 P.A. Hilton Limited. All rights reserved. This technical leaflet, its contents and/or layout may not be modified and/or adapted, copied in part or in whole and/or incorporated into other works without the prior written permission of P. A. Hilton Limited. Hi-Tech Education is a registered trade mark of P. A. Hilton Limited.

COUNTRY OF ORIGIN - UK WARRANTY PERIOD - 5 YEARS