

Product Name :
Astra Scientific Hydrostatic Pressure

Product Code :
Fluid Mechanics Lab0019



Description :

Astra Scientific Hydrostatic Pressure

Technical Specification :

DESCRIPTION: The module consists of a quadrant assembled to the arm of a scale that swings around an axis. When the quadrant is immersed in the water tank, the force that acts on the flat rectangular front surface exerts a momentum with respect to the supporting axis. The swinging arm is fitted with a tray and an adjustable counter balance. The tank has adjustable supporting legs for leveling. It has a drainage valve. A graduated scale indicates the level reached by the water inside the tank.

This assembly is mounted on top of an acrylic tank, which may be leveled by adjusting screwed feet. Correct alignment is indicated on a circular spirit level mounted on the base of the tank.

The Hydrostatic Pressure accessory has been designed to determine the static thrust exerted by a fluid on a submerged surface and enables comparison of the measured magnitude and position of this force with simple theory.

FEATURES:

- Determination of the center of pressures with an angle of 90° , partially submerged.
- Determination of the resultant force with an angle of 90° , partially submerged.
- Determination of the center of pressures, angle $\neq 90^\circ$ partially submerged.
- Determination of the equivalent force with an angle $\neq 90^\circ$ partially submerged.
- Determination of the center of pressures with an angle of 90° totally submerged.
- Determination of the resultant force with an angle of 90° totally submerged.
- Determination of the center of pressures, angle $\neq 90^\circ$ totally submerged.
- Determination of the resultant force, angle $\neq 90^\circ$ totally submerged.
- Balance of momentum.

SPECIFICATION:

- Tank capacity: 5.5 ltr.
- Distance between the suspended masses and the support point: 285 mm.
- Area of the section: 0.007 m².
- Total depth of the submerged quadrant: 160 mm.
- Height of the support point on the quadrant: 100 mm.
- A set of masses of different weights is supplied (4 of 100gr, 1 of 50gr, 5 of 10gr, and 1 of 5gr).



Astra Scientific

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