Email : sales@scilabexport.com
Phone: +91-7082934803

Product Name :

Center of Pressure

Product Code :

SLE/EFM/28



Science Lab

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Description :

The **Center of Pressure** apparatus (Product Code: SLE/EFM/28) is a pivoted clear plastic assembly that students use to find the centre of pressure on a plane surface when it is totally or partially submerged in water. A clear quadrant mounted on a vertical panel holds the water, a scale shows the head, and weights hung from a lever arm balance the hydrostatic moment. Compact and self-contained, it is made by **Jain Scientific Equipments Pvt Ltd (ScienceLab)**, Ambala, for hydrostatics practicals in engineering colleges, polytechnics and other buyers of mechanics lab equipment.

Key Details

Parameter	Detail
Type	Pivoted centre of pressure (hydrostatic force) apparatus
Construction	Vertical panel holding a clear plastic quadrant, to which water is added
Head indication	Scale on the panel showing the head of water
Quadrant markings	Engraved lines to help set the plane surface vertical or at an angle
Quadrant geometry	Cylindrical sides with their central axis coincident with the moment measurement axis, so pressure on the curved faces exerts nomoment about the pivot
Moment measurement	Weights suspended from a lever arm
Test conditions	Plane surface fully or partially submerged
Format	Compact, self-contained unit suited to classroom demonstrations

Typical Use

The experiment works because of the quadrant's shape. Its curved sides are centred on the pivot, so the water pressure acting on them passes through the pivot and produces no turning effect; the only moment left is the one from pressure on the flat test face. Students add water in stages, read the head from the panel scale, and restore balance by adding weights to the lever arm. From the balancing moment they calculate the hydrostatic thrust and the depth of the centre of pressure, then compare it with the theoretical value for a partially submerged face and, once the water covers the face completely, for a fully submerged one.

Using the engraved lines, the plane can also be set at an angle to study inclined surfaces, a useful extension for civil and mechanical engineering groups. Level the panel before starting, add water gently to avoid splashing onto the balance side, and drain and dry the quadrant after the session to keep the clear plastic free of marks. The unit is a practical choice of lab equipment for college fluid mechanics courses that need a bench-top hydrostatics experiment.

Manufacturer

This apparatus comes from **Jain Scientific Equipments Private Limited**, an Ambala, Haryana manu s, the c 3358

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