Fluid mechanics set
EQ033D

Function

Intended for experimental study, physics laboratory and carrying out physics experiments on: Atmospheric Pressure. The Magdeburg hemisphere experiment and atmospheric pressure. What is meant by Magdeburg hemispheres. Reducing internal pressure to the discs. Balancing the internal pressure of the discs with atmospheric pressure. Hydrostatic. Pascals principle, the hydraulic elevator. What is meant by fluid. The proportion that relates the acting forces to the areas of the straight sections of the cylinders. The free surfaces of a liquid within open communicating vessels, not capillaries. What are communicating vessels? Capillarity. Leveling points on a vertical bulkhead. The pressure at a point in a liquid at equilibrium, Stevins principle. How to read the depth of the submerged point. Measuring pressure at different depths of a liquid at rest. Stevins principle, the fundamental principle of hydrostatics. The density of a liquid as a function of the known density of another liquid, immiscible liquids. Measuring the height of the oil column by difference. Measuring by difference the height of the water column in the branch that balances the oil column. What is meant by an isobaric surface. The hydrostatic buoyant force, a quantity with direction, direction and module (value). Scalar and vector quantities. The mass of a body does not change, it is a scalar quantity and one of the general properties of matter. The weight of a body can change, it depends on where the body is. The relationship between the apparent decrease in the weight of a body immersed in a liquid and the buoyancy. Determining the value, direction and direction of the buoyant hydrostatic force. Archimedes principle, buoyancy and its relationship with the volume and density of the displaced liquid. The principle of the

impenetrability of matter. Calculating and determining the characteristics of the buoyant hydrostatic force. The relationship between buoyancy and the weight of the volume of liquid displaced. The relationship between buoyancy and volume, the density of the displaced liquid and the acceleration due to gravity. The relationship between buoyancy and the volume and specific weight of the liquid displaced. Determining the density of a solid in steel, through buoyancy. Determining the density of a brass solid through buoyancy. Determining the density of an aluminum solid through buoyancy. Determining the density of an irregular solid through buoyancy. The absolute density (specific mass) and relative density etc.

Knowledge areas

Physics

Key Experiments

The experiment of the Magdeburg hemispheres and atmospheric pressure