

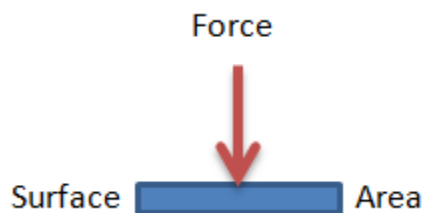
MSET – HYDROSTATIC PRESSURE

Purpose

Introduce pressure measurements and the concept of hydrostatic pressure showing that it increases as the depth of a fluid increases.

Pressure

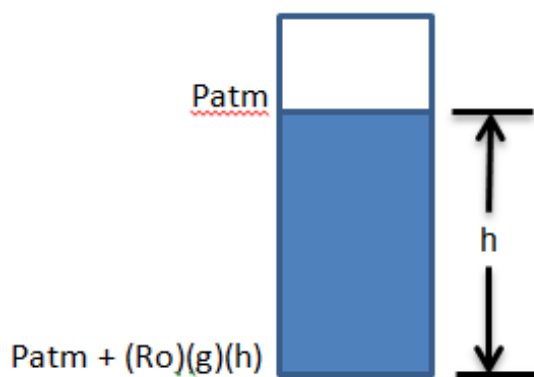
Pressure is defined as a force acting on a surface of an object. The pressure applied to a person is called atmospheric pressure and is 14.7 lbs. for every square inch of surface area.



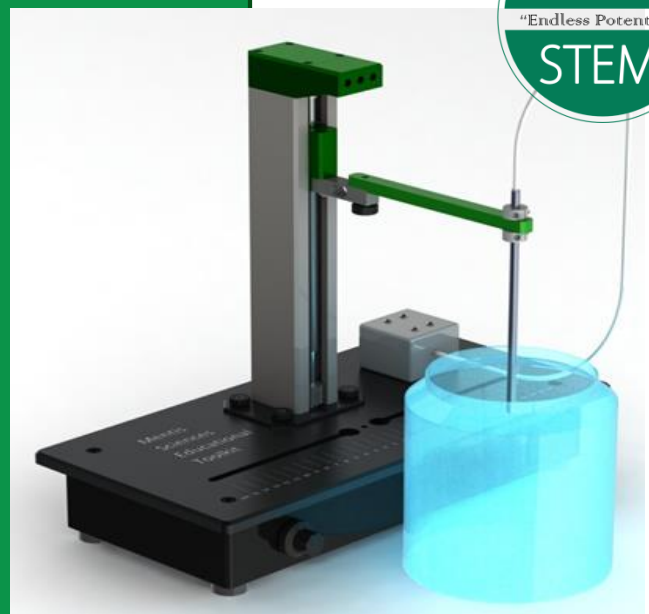
Theory

Hydrostatic pressure "HP", applied to the surface of a vessel that is submerged in a liquid of density "Ro", at some depth "H" can be calculated with the following equation:

$$H_p = \rho g h$$



Setup



Results

Results will show that the hydrostatic pressure follows a linear relationship and that the pressure at a depth can be calculated accurately using the theoretical equation defined. Plots pressure versus depth will be generated, and used to predict the pressure at various depths with liquids other than water.

Hydrostatic pressure

