



## Centre of Gravity Apparatus (SMT-MM-15)

The centre of gravity of a shape of uniform thickness can easily be found by this method. It provides a simple technique for complicated shapes, far quicker than by using calculus for example, although not producing an accurate answer to the handling of a yacht, the calculation of the moments caused by the wind and water acting at the 'centre of lateral area' of the sails and keel are still used as a starting point. A free standing backboard has a pin from which a selection of flat shapes can be hung. A simple pendulum suspended from the pin enables the line of action of the weight to be transferred to the lamina. The centre of gravity is the position on the shape where two or more such lines intersect.

### TECHNICAL SPECIFICATIONS

#### Specifications:

- To establish the position of the centre of gravity of different shapes by experiment, and compare with theoretical calculations.
- The apparatus is a bench mounted unit with a free standing backboard with a pin in it from which a selection of flat shapes can be hung. A simple plumb bob is suspended from the same pin.
- 6 shapes provided; a circle, isosceles triangle, trapezium, L, T and semi-circle.

#### Technical Data:

- Shapes:
  - Material: PMMA
  - 6 Types
  - Circle, Isosceles, Triangle, Trapezium, L, T and Semicircle
- Plumb Bob with string.
- LxWxH: 300x100x400mm  
Weight: approx. 15kg

#### Experimental Data:

- To establish the position of the centre of gravity of several different shapes by experiment, and to compare with values derived from calculation or reference books

