Product Code . LSK-FM-10456

Metacentric Height and Stability

Description

Determination and analysis of the stability of floating bodies, such as ships, rafts and pontoons, is important throughout many branches of engineering.

The experiment consists of a rectangular pontoon floating in water. Plastic materials and corrosion-resistant finishes throughout the equipment give the fullest possible protection against corrosion.

This experiment allows students to determine the stability of a pontoon with its centre of gravity at various heights. They can then compare this to predictions calculated from theory.

The pontoon has a plastic sail with five rows of slots. These rows are at equally spaced heights on the sail. The slots are equally spaced around the centre line.

To change the centre of gravity and the tilt (list) angle of the pontoon, students fit an adjustable weight into one of the slots.

A clinometer pointer hangs at the top of the sail where it can freely rotate.

Along with an inclusive scale on the sail the tilt angle is clearly indicated. Students can easily trim the pontoon using a small weight attached to he sail.