



## H2

## Stability of a Floating Body

***Shows how to find the metacentric height of a floating body. Allows full investigations into theoretical predictions.***



- Full and accurate experimental analysis
- Ideal for classroom demonstrations
- Bench-mounted
- No services required
- Compact and requires minimal storage space

- TecEquipment Ltd, Bonsall Street, Long Eaton, Nottingham NG10 2AN, UK
- **T** +44 115 972 2611 • **F** +44 115 973 1520 • **E** info@tecquipment.com • **W** www.tecquipment.com
- An ISO 9001 certified company

## H2

## Stability of a Floating Body

### Description

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

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 plumb line from the top centre of the sail and a scale below the base indicate the tilt angle. Students obtain fore and aft balance by positioning two small magnetic trim weights on the bottom of the pontoon.

### Standard Features

- Supplied with comprehensive user guide
- Five-year warranty
- Made in accordance with the latest European Union directives

### Experiments

Determination of the metacentric height, and thus the metacentre, of a floating pontoon. This is by graphic analysis of the angles of tilt of the pontoon with various centres of gravity.

### Operating Conditions

*Operating environment:*  
Laboratory

*Storage temperature range:*  
−25°C to +55°C (when packed for transport)

*Operating temperature range:*  
+5°C to +40°C

### Essential Services

*Floor space needed:*  
Approximately 700 mm x 500mm of solid, level bench worktop

### Specification

*Dimensions:*  
Nett: 650 mm x 450 mm x 350 mm; packed: 0.11 m<sup>3</sup>

*Weight:*  
Net: 5 kg; packed: 9 kg

*Water tank:*  
Moulded plastic, nominally 600 mm x 400 mm x 120 mm

*Floating pontoon:*  
360 mm x 203 mm x 76 mm

*Angular tilt of pontoon:*  
Nominally 8° each side of the vertical centre line

*Working height of sail:*  
240 mm

*Adjustable sail weight:*  
525 g

*Total weight of floating assembly:*  
Nominally 3.2 kg

*tradition.*

*innovation.*

*integration.*

**infoWERK** is a leading expert in the development of eLearning courseware, learning system solutions, teaching and AV equipment.

**Furthermore infoWERK is the representative and system integrator of "TecQuipment".**

**TecQuipment** is one of the global leaders in technical teaching equipment for engineering. If you are interested in one of TecQuipment's products feel free to contact us at:



**infoWERK Medien & Technik GmbH**

**Martinsbühel 6 / A-6170 Zirl / Austria**

Phone: +43 (0) 5238 52099-0 / Fax: +43 (0) 5238 52099-40

E-Mail: [info@infowerk.at](mailto:info@infowerk.at) / Website: [infowerk.at](http://infowerk.at)

**Otto-Dürr-Straße 25**

**D-70435 Stuttgart, Zuffenhausen/ Germany**

Phone: +49 (0) 711 342471-0 / Fax: +49 (0) 711 342471-11

E-Mail: [info@de.infowerk.at](mailto:info@de.infowerk.at) / Website: [infowerk.at](http://infowerk.at)