EM 049

Equilibrium of moments on a two-arm lever

Description

- **fundamentals of the equilibrium of moments and application of the law of levers**

EM 049 is used to investigate the fundamentals of the equilibrium of moments based on the example of a two-arm lever. Moments occurring on the lever are to be brought to equilibrium.

A centrally mounted beam represents a two-arm lever. Movable riders are placed on the lever and weights are applied. Equilibrium is attained by moving the weights. Distances from the pivot point – the lever arms – can be read from an integrated scale. The calculation of the lever arms is verified in the experiment.

A vertical column carries the lever. A sturdy base plate ensures that the unit stands securely.

Learning objectives/experiments

- fundamentals of the equilibrium of moments: applied forces, generated moments and equilibrium
- action of forces dependent on the lever arm

Specification

[1] investigation of the equilibrium of moments on a two-arm lever
[2] ball bearing-mounted beam with integrated scale as two-arm lever
[3] sturdy metal frame
[4] storage system to house the components

Technical data

Beam
- LxWxH: 600x30x10mm, centrally ball bearing mounted
- lever length: 2x 300mm

Weights
- 3x 1N (hanger)
- 6x 5N
- 12x 1N

LxWxH: 600x300x410mm
Weight: approx. 10kg
LxWxH: 200x70x40mm (storage system)
LxWxH: 95x68x35mm (storage system)

Scope of delivery

1 experimental unit
1 set of weights
1 set of instructional material

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Optional accessories

WP 300.09	Laboratory trolley