

Product Name :
Forces In A Simple Bar Structure

Product Code :
TN191



Description :

Forces In A Simple Bar Structure

Technical Specification :

Forces In A Simple Bar Structure

The unit comprises three bars that are joined together using disks such that the joints are free to move. The bars engage in the disks by snap-locks. Two of the node disks also form the supports (fixed and movable) and are clamped to the sturdy aluminium section base frame. The external load is applied to the upper nodal point by means of weights. The bar forces occurring are measured by the deformation of leaf spring elements in the middle of the bar.

The unit is perform the following experiments and investigations:

Learning Objectives / Experiments:

Measurement of bar forces

Calculation of bar forces by the method of joints

Comparison: measuring result - calculation - graphical method

Specifications:

Resolution of forces in a single plane, statically determinate system

3 node disks, 2 of which serving as supports

3 bars, each fitted with a leaf spring element and dial gauge

2 fixed bar lengths, 1 variable bar length

5 different angles adjustable between bars

Storage system to house the components

Technical Data:

Bars

Fixed bar: L=440mm

Adjustable bar: L=440, 622, 762mm

Angle between bars

60°-60°-60°/45°-90°-45°

30°-120°-30°/30°-30°-120°

Dial gauge

Measuring range: 0...10mm

Graduation: 0,01mm

Weights

1x 1N (hanger)

1x 10N

2x 20N

Leaf spring element

Force measuring range: 0...50N

Dimensions and Weight

Length x Width x Height: 900x200x600mm

Weight: 15kg

Length x Width x Height: 1170x480x178mm (storage system)

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