

Product Name :
Forces Simple Bar Structure**Product Code :**
ALABS-A165-018**Description :****Forces Simple Bar Structure**

In the single plane system the bars are only subjected to compression and tension. Loads are applied only to the nodes. The unit comprises three members that are joined together using discs such that the joints are free to move. A longitudinally adjustable bar permits the bar structure to be constructed with different angles. The bars engage in the discs by snap-locks. Two of the node discs also form the supports (fixed and free) 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 method of joints enables the bar forces to be determined by formulating a system of equations.

Specification:

1. Resolution of forces in a single plane, statically determinate system
2. 3 node discs, 2 of which serving as supports
3. 3 bars, each fitted with a leaf spring element and dial gauge

4. 2 fixed bar lengths, 1 variable bar length
5. 5 different angles adjustable between bars
6. Box to house the components

Technical Data

Bars

- fixed bar: $l=440\text{mm}$
- adjustable bar: $l=440, 622, 762\text{mm}$

Angle between bars

- $60^\circ - 60^\circ - 60^\circ / 45^\circ - 90^\circ - 45^\circ$
- $30^\circ - 120^\circ - 30^\circ / 30^\circ - 30^\circ - 120^\circ$

Dial gauge

- measuring range: $0 \dots 10\text{mm}$, graduations: $0,01\text{mm}$

Weight set: 1x 1N (hanger), 1x 10N, 2x 20N

Leaf spring element: force measuring range $0 \dots 50\text{N}$

Features:

- Resolution of forces in simple bar structures



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