



- Vectoral handling of forces in a planar central force system

Tesca Forces in a Crane Jib

represents a planar central force system in which multiple forces act on a single point of application. Based on the example of a crane jib, forces are determined graphically and experimentally: resultant cable force, tensile force, compressive force. The directions and magnitudes of the forces are determined graphically by way of a force parallelogram.

A bar of adjustable length and a chain make up the crane jib, which is attached by adjustable clamp elements to a retaining bar. A variety of jib forms can be created. Loads are applied to the crane jib. The occurring bar forces are indicated by integrated spring balances.

Specifications

- Tensile and compressive forces in a planar central force
- system Based on the example of a crane jib

Note: Specifications are subject to change.

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- Various jib forms possible
- Integrated spring balances in the bars
- Max. Load on crane jib 50n
- Loading with weights set, up to 50n
- Steel weights, surfaces galvanized
- Stainless steel retaining bar
- Sturdy metal frame
- Handles to aid transportation
- Storage system to house the components

Technical Specifications

- Spring balance for tensile forces
 - Tensile force: 0...50N, graduations 0,5N
- Spring balance for compressive forces
 - Pressure force: 0...50N, graduations 1N
- Weight set
 - 1x 1N (hanger)
 - 4x 1N
 - 1x 5N
 - 4x 10N

Experiments

- Graphical breakdown of forces by force parallelogram
- Determination of the bar forces on various jib forms
- Comparison of measurement result - calculation - Graphical method

Scope of Delivery

- 1 experimental unit
- 2 spring balances
- 1 set of weights
- 1 storage system with foam inlay
- 1 set of instructional material