KI 130
Kinematic model: four-joint link

Description

- **conversion of rotary motion into oscillating motion**

The four-joint link is a four-bar pivot gear. It converts rotary motion into oscillating motion.

The KI 130 unit can be used to investigate the crank-rocker mechanism, the double rocker mechanism and the double crank.

The experimental unit comprises the drive disk with the crank and coupling and the output disk with the rocker. The elements are connected to each other via pivot joints. The positions of the pivot joints can be varied to adjust the crank radius, oscillation radius and coupling length. The drive disk can be driven by the crank.

The input angle is adjusted using the drive disk, and an angle scale is integrated into the base plate. The output angle is read at the angle scale on the output disk.

The elements are mounted on a base plate. Two handles make it easy to carry and stack the unit.

Learning objectives/experiments

- investigation of the mechanical relationships on the four-joint link
- investigation of the principle of the crank-rocker mechanism, double rocker mechanism and double crank
- verification of the Grashof condition by varying the crank radius, oscillation radius and coupling length

Specification

[1] investigation of a four-joint link
[2] adjustment of the crank radius at three positions of the crank on the drive disk
[3] adjustment of the oscillation radius at three positions
[4] adjustment of the coupling length at five positions
[5] adjustment of the input angle by turning the drive disk
[6] measure the output angle on the angle scale of the output disk

Technical data

Drive disk and output disk
- anodised aluminium
- ball-bearing mounted

Crank radius
- 25mm, 37,5mm, 50mm

Rocker
- aluminium, anodised black
- oscillation radius: 50mm, 100mm, 200mm

Coupling
- aluminium, anodised black
- length: 60mm, 160mm, 180mm, 200mm, 220mm

LxWxH: 380x280x100mm
Weight: approx. 3kg

Scope of delivery

1 kinematic model
1 set of instructional material

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Optional accessories

WP 300.09	Laboratory trolley