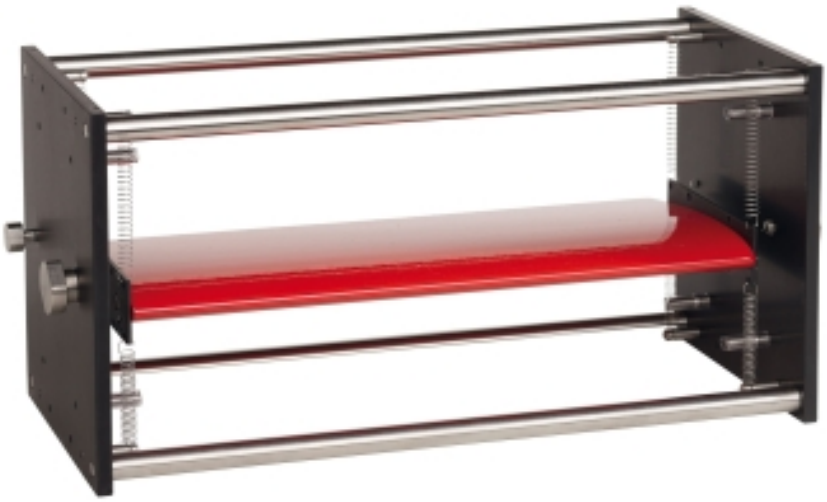
HM 170.20
Aerofoil, spring-mounted



Learning objectives/experiments

- examination of fluttering vibrations on aerofoils
- the use of a stroboscope permits the observation of the natural forms of the vibrating aerofoil.

Specification

[1] aerofoil for examination of self-starting vibration
[2] accessory for the wind tunnel HM 170
[3] aerofoil painted for smooth surface

Technical data

Aerofoil
- profile: NACA 0015
- shape: symmetrical
- LxWxH: 200x100x15mm
- weight: 0,157kg
- mass moment of inertia: $1{,}07 * 10^{4} kgm^{2}$

Spring rigidity
- single spring: 27N/m
- total rigidity, transverse: 216N/m

Torsional rigidity: 0,07...0,28Nm/rad

LxWxH: 300x145x120mm
Weight: approx. 3kg

Scope of delivery

1 aerofoil with suspension and frame
1 manual

Description

- **model for examination of self-starting vibration in aerodynamics**

The aerofoil is suspended flexibly with eight springs in an external frame to permit torsional and transverse vibration of the aerofoil. The frame is simply attached with screws in the measuring section of the wind tunnel. Attachment points on the frame prevent excessive deflection of the aerofoil during the execution of the experiment. The springs can be attached at various positions on the aerofoil and frame in order to set different torsion rigidity levels.

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Required accessories

HM 170	Open wind tunnel