

Automated Airfoils Deformation Research Lab

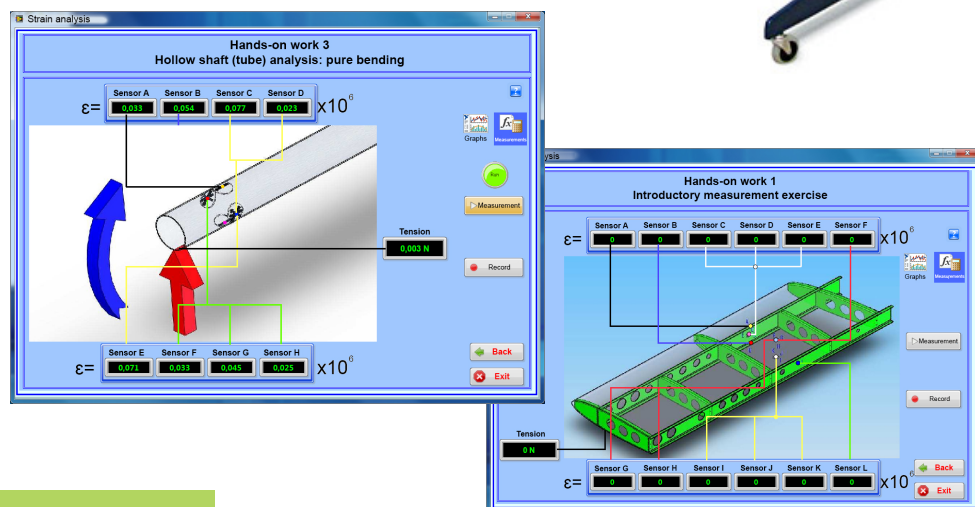
Overview

The automated educational stand for the study of airfoils deformation has been developed based on the TrueStructure bench by Turbine Technologies. The stand is designed for practical experiments in structural analysis and can be used for the analysis of simple and complex bending, shear and torsion on a tube model, an I-beam and an aircraft airfoil.

The measurement system is based on the National Instruments PXI or cDAQ platforms and software developed in NI LabVIEW graphical programming environment.

Hands-on Works

1. Introductory Measurement Exercise.
2. The I-Beam in Bending.
3. Hollow Shaft (Tube) Analysis: pure bending.
4. Hollow Shaft (Tube) Analysis: pure torsion.
5. Hollow Shaft (Tube) Analysis: combination loading - bending and torsion.
6. Wing Strain Analysis.



Technical Specifications

Environment Temperature	from +10° to +35°C
Relative Humidity	less than 80% at temperature of 25°C
Power Consumption	max 200 W
Strain Gauges Quantity on the Stand	12
Dimensions (Lx Wx H)	(1650 x 830 x 910) mm
Weight	net - 120 kg, gross load - 150 kg