

## Experiments in Mechanics— Strain Gage Series and Pregaged Cantilever Beams

Experiments in Mechanics are complete exercises, designed around the simple cantilever beam, and intended to teach mechanics using experimental stress analysis technology as the teaching medium. Each experiment will yield consistently accurate and meaningful results when the instructions are carefully followed. Necessary supplemental information such as wiring diagrams, work sheets, graphs, and illustrations is included.

The experiments require a minimum of preparation time for the instructor. A list of the learning opportunities embodied in the experiment, as well as sources of errors, estimates of time required to perform the experiment and typical results, are contained in separate “Notes to the Instructor” provided with each set of experiments.

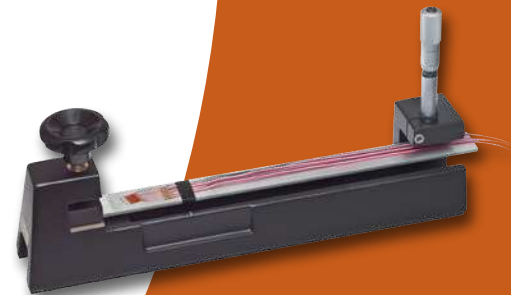
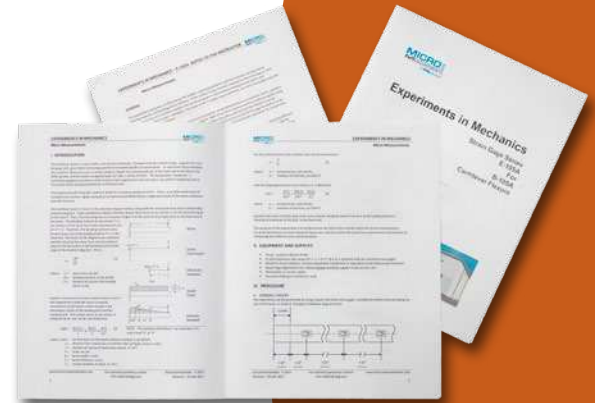
The experiments employ conventional strain gage technology and are coordinated with our pregaged beams. Experiments in Mechanics are sold separately or in complete sets, and can be purchased with beams. The experiments include:

- E-101A, Modulus of Elasticity**, for use with Pregaged Beam B-101A
- E-102A, Poisson's Ratio**, for use with Pregaged Beam B-102A
- E-103A, Principal Strains and Stresses**, for use with Pregaged Beam B-103A
- E-104A, Stress and Strain Concentration**, for use with Pregaged Beam B-104A
- E-105A, Cantilever Beam**, for use with Pregaged Beam B-105A
- E-106A, Constant Stress Beams**, for use with Pregaged Beam B-106A

### Flexor

Recommended for all Experiments in Mechanics, the Flexor is a cantilever flexure frame that offers a simple, versatile, and portable all-in-one solution for loading beams. The cantilever-beam principle is particularly appropriate for measuring basic materials properties, and for performing strain gage and other stress analysis experiments. Test specimens are inexpensive and simple to fabricate, and only modest forces are required to develop large strains and high stresses. Since the cantilever beam is a fundamental and widely used structural element, the Flexor offers numerous associated advantages as a technical teaching aid. Deflections are produced and measured by a micrometer, and strains of up to 2500  $\mu\epsilon$  can be obtained on a 0.250 in (6.35 mm) thick beam. The Flexor can also be used with deadweights. Three ungaged high-strength aluminum alloy beams and weight hook are provided with each Flexor.

**For information concerning these products,  
contact us at +1-919-365-3800, or  
[micro-measurements@vpgsensors.com](mailto:micro-measurements@vpgsensors.com)**





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