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Products
Products range
Units
7.-Mechanics & Materials



Optional accessory **MVVC**

DESCRIPTION

The unsymmetrical cantilever unit is designed to demonstrate the unsymmetrical bending of beams.

Simple experiments may be carried out to determine the deflections Δ_u and Δ_v at the free end of cantilevers of different sections for varying angles of applied load from which the relationship between $\frac{\Delta_u}{W}$ and $\frac{\Delta_v}{W}$ may be determined graphically.

The system consists of a vertical cantilever rigidly clamped at its lower end to the main column which is attached to a rigid structure. Beams of different sections may be used.

A loading head, located at the upper end of the column, can rotate freely around the vertical axis of the beam at 15° intervals.

A horizontal load may be applied to the free end of the beam by means of a cord attached to the beam and passing over a pulley mounted on the rotating head.

The Δ_u and Δ_v deflections of the beam are measured by means of two dial gauges mounted perpendicularly to each other on the head.

To compensate any lateral deflection of the beam, the line of action of the applied load can be adjusted by lateral adjustment of the load pulley.

Two steel beams are supplied, one with rectangular section and the other one with L shape section.



ISO 9000: Quality Management
(for Design, Manufacturing,
Commercialization and After-sales service)



European Union Certificate
(total safety)



**Certificates ISO 14000 and
ECO-Management and Audit Scheme**
(environmental management)



**Worlddidac Quality Charter
Certificate**
(Worlddidac Member)

SPECIFICATIONS

Bench-top unit mounted on a structure of anodized aluminium profiles, with painted steel panel (epoxy paint), and with legs.

The unit basically consists of:

A main column, made in aluminium, (the vertical cantilever is clamped at its lower end to this main column to carry out the experiment).

A loading head, made in aluminium, located at the upper end of the column, which can rotate 180° at 15° intervals around the vertical axis of the beam.

Set of pulley, located at the loading head, to apply a horizontal load.

2 Dial gauges of 0-25 mm and 0.01 mm accuracy, to measure Δ_u and Δ_v deflections.

2 Steel beams are supplied, one with rectangular section and the other one with L shape section.

In order to carry out some of the practices with MVV unit, 1 Set of Masses is required. (See required accessories).

Manuals: This unit is supplied with the following manuals: Required services, Assembly and Installation, Starting-up, Security, Maintenance and Practices manual.

Optional:

Accessory **MWVC**. (see section optional accessories).

EXERCISES AND PRACTICAL POSSIBILITIES

Some Practical Possibilities of the Unit:

- 1.- Determining the deflection of the beam depending on the intensity of the force applied.
- 2.- Determining the deflection of the beam depending on the direction of the force applied.
- 3.- Determining the Δ_u and Δ_v deflections at free ends of cantilevers.
- 4.- Studying the deflections at two planes, for several sections.
- 5.- Determining deflections for different angles of force applied.
- 6.- Studying the rigidity variation.
- 7.- Determining the position of the torsion centre of the beam (with accessory MWVC).

DIMENSIONES Y PESOS

-Dimensions: 400 x 300 x 400 approx.

-Weight: 14 Kg. approx.

REQUIRED ACCESSORIES

-Set of masses, of different weights, and support hook.

OPTIONAL ACCESSORIES

MWVC. Accessory for using with MVV unit. It is used in experiments for determining the torsion centre of a beam. 4 Aluminium beams of different sections are also included.

* Specifications subject to change without previous notice, due to the convenience of improvements of the product.



C/ Del Agua, 14. Polígono Industrial San José de Valderas.
28918 LEGANÉS. (Madrid). SPAIN.
Phone: 34-91-6199363 FAX: 34-91-6198647
E-mail: edibon@edibon.com WEB site: www.edibon.com

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