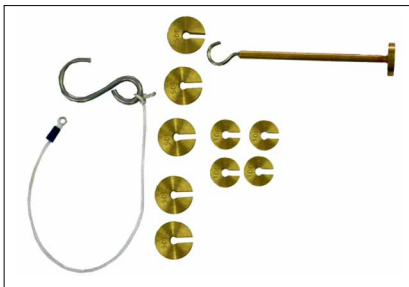


www.edibon.com

Products
Products range
Units
7.-Mechanics & Materials



Set of masses



DESCRIPTION

MUP is an unit made by EDIBON to demonstrate the phenomenon of crippling load for struts.

The crippling load is a phenomenon of structural instability which the struts subjected to compression generally suffer and over which some perturbing force acts. The main characteristic of the struts which can experiment crippling load is the slenderness.

The MUP is a bench-top unit whose structure is made in anodized aluminium profiles and plates and other elements in steel, on which a bubble level is installed to equilibrate the system.

The unit has been designed to carry out tests with different lengths and different ends conditions:

- Both ends pinned.
- Both ends fixed.
- One end pinned and the other fixed.

MUP is designed to work with two types of struts: of circular section and rectangular section. Therefore, the experiments can be carried out according to the different ends conditions and the different lengths between 400 mm and 800 mm.

The unit has a regulation nut which, together with a bubble level, will allow to equilibrate the horizontal lower beams, all that after having subjected the system to compression.

It has an accessory to create the instability of the system which consists of a pulley and its support and a set of masses. This accessory can change the perturbing force which acts on a vertical strut subjected to compression.

A balance installed in the right portico will allow to know the load at which the experimental strut is subjected.

To obtain the experimental strut deflection respect of the vertical, a dial gauge is supplied.



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

The unit is mounted on a structure of anodized aluminium profiles, with steel plates painted in epoxy, which has four adjustable legs installed.

The unit basically consists of:

Two porticoes:

- A 1 m height portico, where the test struts are placed. It is designed to accommodate struts of different height by using two pins. Therefore, at the upper and lower parts, there are special clamps to subject the strut to the desired ends conditions.
- A 50cm height portico, where the experimental strut will be subjected to load by means of a spring balance situated at the upper part and which will tend to elevate the lower beams, so the experimental strut will be subjected to compression.

Bubble level to equilibrate the system.

Regulation nut which, together with a bubble level, will allow to equilibrate the horizontal beams.

Balance 0-50 kg to measure the strut compression load, with 200 g accuracy.

Weight of 1 kg.

Dial gauge, measurement range: 0-20 mm, precision: 0.01 mm, to check the strut flexion according to the experimental strut is subjected to load.

Accessory to create perturbing load over the test strut, which consists of support, pulley and set of masses.

Set of masses, composed of:

- 5 masses of 50 gr.
- 4 masses of 10 gr.
- 1 hook of 100 gr.

Set of test struts, composed of:

- 15 struts of rectangular section, of different lengths and different conditions at the ends.
- 15 struts of circular section, of different lengths and different conditions at the ends.

Manuals: This unit is supplied with the following manuals: Required Services, Assembly and Installation, Starting-up, Safety, Maintenance & Practices Manuals.

EXERCISES AND PRACTICAL POSSIBILITIES

Some Practical Possibilities of the Unit:

- | | |
|---|--|
| 1.- Experimental determination of the relation between the crippling load for different thickness, materials and shapes of the test struts. | 4.- Determination of the crippling load for vertical beams for different slenderness modulus and several conditions at the ends. |
| 2.- Experimental determination of the relation between the crippling load and the test struts ends conditions. | 5.- Rectangular test specimens for the deflection occurs in a determined plane of lengths. |
| 3.- To establish the critic load differences for different lengths and different strut sections. | 6.- Application of a light lateral load to measure the lateral deflection. |

DIMENSIONS & WEIGHT

- Dimensions: 800 x 400 x 1200 mm. approx.

- Weight: 60 Kg. approx.

*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

Issue: ED03/10
Date: September/2010

REPRESENTATIVE:

