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## DESCRIPTION

The MFLT apparatus developed by EDIBON is an unit to demonstrate the buckling load for struts at compression.

This unit allows the student to obtain experimentally the critic Buckling Load of slender struts subject to compression.

The unit allows to study the buckling of specimens of different lengths between 300 mm and 625 mm and with different support conditions:

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

To carry out correctly the practices, it is very important to apply the force with an only axial component. So, the MFLT unit has a tighten screw of fine pitch placed at one end which allows the system compression.

To measure the compression force exercised on the structures, there is a system composed of an elastic ring whose deformation is measured. The compression force will be directly proportional to the deformation registered in a dial gauge.



**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

This unit is mounted on a structure of anodized aluminium profiles with steel panels and supports painted in epoxy paint.

The unit basically consists of:

- 2 guides to slide the mobile clamp, made in stainless steel, that allow to test specimens up to 650 mm length.
- Universal supports to fasten the test specimen, according to the required end conditions.
- Mobile clamp located at one end. It has a lower crank to adjust the test specimen to the desired length. Therefore, it has a system to measure the applied force, by measuring the deformation of an elastic metallic ring. The clamp can be placed in position of pinned end or fixed end, according to the desired practice.
- Fixed clamp, which has several functions. The upper crank has two positions according to the desired end conditions for the clamp. Another function is the system to apply the force over the specimen composed of a crank, that causes the compression on the structure when turning to the right.
- Dial gauge of 0-5 mm, range and a 0.01 mm accuracy, to determine the compression load at which the test specimen is subjected.

There are 9 test specimens of different lengths included, made in tempered steel of 20 mm x 1.5 mm thickness:

Test specimen of 300 mm length.

Test specimen of 350 mm length.

Test specimen of 400 mm length.

Test specimen of 450 mm length.

Test specimen of 500 mm length.

Test specimen of 550 mm length.

Test specimen of 600 mm length.

Test specimen of 615 mm length.

Test specimen of 625 mm length.

**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.- Study of the deformation in beams.   | 5.- Determination of the limit Buckling Load of flat specimen, one end fixed and the other pinned. |
| 2.- Checking-up of the theory of Euler for beams.  | 6.- Determination of the limit Buckling Load of flat specimen, with both ends fixed.               |
| 3.- Determination of relation between Buckling Load and slenderness modulus for axial loads. |  |
| 4.- Determination of the limit Buckling Load of flat specimen, pinned in both ends.          |  |

## DIMENSIONES Y PESOS

- Dimensions: 1000 x 300 x 250 mm. approx.

- Weight: 15 Kg. approx.

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



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