edib on

Engineering and Technical
Teaching Equipment

INTRODUCTION

The moment of inertia measures the resistance that a body exerts to change its state of rotational movement.

The moment of inertia reflects the mass distribution of a body or a system of particles in rotation, with respect to an axis of rotation. It depends only on the geometry of the body and the position of the axis of rotation; but it does not depend on the forces that take part in the movement.

The Inertia Flywheel Unit, "MIF", allows performing tests to study the uniform acceleration rotation movement.

GENERAL DESCRIPTION

The Inertia Flywheel Unit, "MIF", consists of an inertia disc with a rotation shaft at the center of the disc.

The shaft is supported at two points by bearings.

A cord is attached by one of the ends to the shaft and wound around it. At the other end a hanger is available, to adjust the weight. It will make the flywheel have a uniform acceleration movement.

A chronometer is provided to measure the time required by the rope to unwind as a function of the weight applied and, thus, determine the moment of inertia of the flywheel in function of the weight applied.

SPECIFICATIONS

Bench-top unit with adjustable legs.

Anodized aluminum frame and panels made of painted steel.

The "MIF" unit mainly consists of:

Inertia flywheel:

Diameter: 300 mm.

Density: 40 mm.

Mass: 22.5 Kg.

Shaft:

Diameter: 22 mm.

Cord and hanger.

Chronometer.

In order to carry out some of the practices with "MIF" unit, a "B type" set of weights is required. (See "Required Accessories" section)

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

EXERCISES AND PRACTICAL POSSIBILITIES

1.- Study and analysis of the inertia of a flywheel.

2.- Study of the law of dynamic rotational movement.

3.- Generate a uniformly accelerated rotational movement.

4.- Measure the time and the acceleration distance.

5.- Experimental determination of the moment of inertia.

6.- Study of the influence of the weight on the moment of inertia.

REQUIRED ACCESSORIES (Not included)

- 1 "B type" set of weights. Each "B type" set included:

6 weights of 200 g. (0.44 pounds)

6 weights of 100 g. (0.22 pounds)

2 weights of 50 g. (0.11 pounds)

2 weights of 20 g. (0.044 pounds)

2 weights of 10 g. (0.022 pounds)

1 support hook of 100 g. (0.22 pounds)

DIMENSIONS AND WEIGHTS

MIF:

-Dimensions: 600 x 600 x 650 mm approx.

(23.62 x 23.62 x 25.59 inches approx.)

-Weight: 25 Kg approx.

(55.11 pounds approx.)

MIF/ICAI. Interactive Computer Aided Instruction Software System:

With no physical connection between unit and computer (PC), **this complete software package consists of an Instructor Software (EDIBON Classroom Manager -ECM-SOF) totally integrated with the Student Software (EDIBON Student Labsoft -ESL-SOF).** Both are interconnected so that the teacher knows at any moment what is the theoretical and practical knowledge of the students.
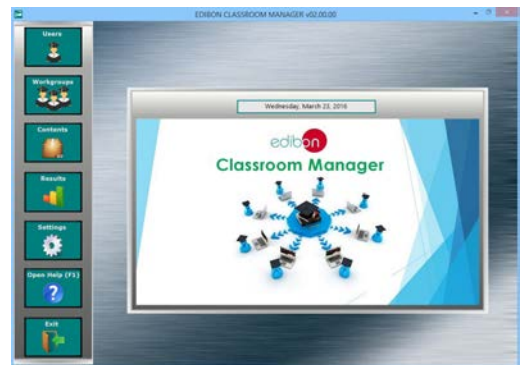
Instructor Software

**- ECM-SOF. EDIBON Classroom Manager (Instructor Software).**

ECM-SOF is the application that allows the Instructor to register students, manage and assign tasks for workgroups, create own content to carry out Practical Exercises, choose one of the evaluation methods to check the Student knowledge and monitor the progression related to the planned tasks for individual students, workgroups, units, etc… so the teacher can know in real time the level of understanding of any student in the classroom.

Innovative features:

• User Data Base Management.

• Administration and assignment of Workgroup, Task and Training sessions.

• Creation and Integration of Practical Exercises and Multimedia Resources.

• Custom Design of Evaluation Methods.

• Creation and assignment of Formulas & Equations.

• Equation System Solver Engine.

• Updatable Contents.

• Report generation, User Progression Monitoring and Statistics.

ECM-SOF. EDIBON Classroom Manager (Instructor Software)
Application Main Screen
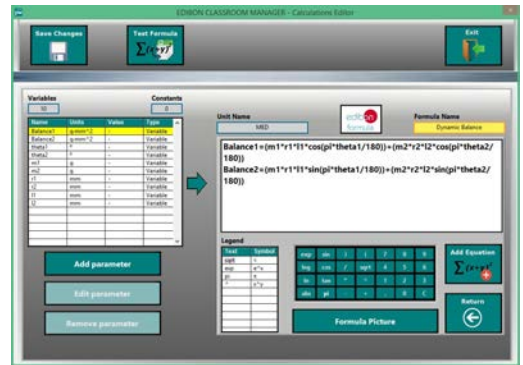
ECAL. EDIBON Calculations Program Package - Formula Editor
Screen
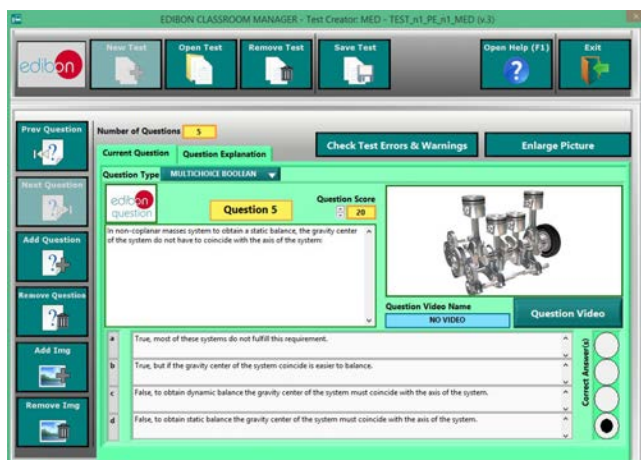
ETTE. EDIBON Training Test & Exam Program Package - Main Screen with
Numeric Result Question

ERS. EDIBON Results & Statistics Program Package - Student
Scores Histogram

- ESL-SOF. EDIBON Student Labsoft (Student Software).

ESL-SOF is the application addressed to the Students that helps them to understand theoretical concepts by means of practical exercises and to prove their knowledge and progression by performing tests and calculations in addition to Multimedia Resources. Default planned tasks and an Open workgroup are provided by EDIBON to allow the students start working from the first session. Reports and statistics are available to know their progression at any time, as well as explanations for every exercise to reinforce the theoretically acquired technical knowledge.

Innovative features:

- **Student Log-In & Self-Registration.**

- **Existing Tasks checking & Monitoring.**

- **Default contents & scheduled tasks available to be used from the first session.**

- **Practical Exercises accomplishment by following the Manual provided by EDIBON.**

- **Evaluation Methods to prove your knowledge and progression.**

- **Test self-correction.**

- **Calculations computing and plotting.**

- **Equation System Solver Engine.**

- **User Monitoring Learning & Printable Reports.**

- **Multimedia-Supported auxiliary resources.**

For more information see **ICAI** catalogue. Click on the following link:
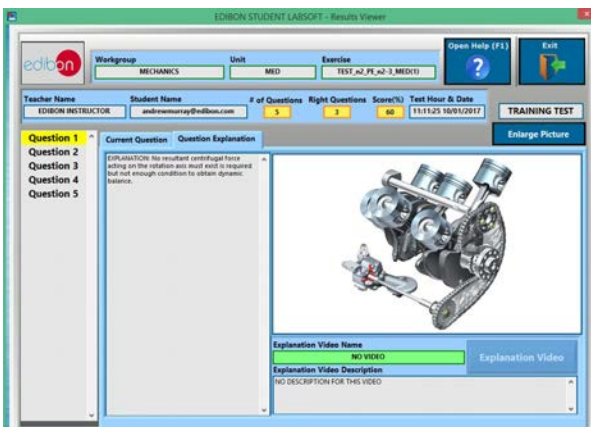
www.edibon.com/en/files/expansion/ICAI/catalog
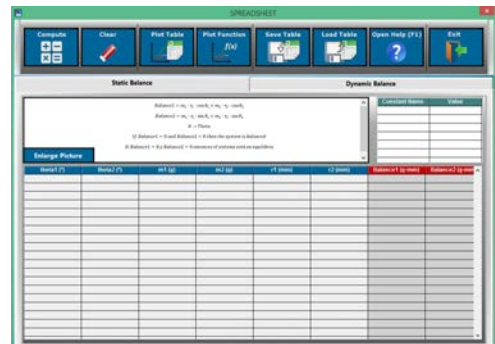

ESL-SOF. EDIBON Student LabSoft (Student Software)
Application Main Screen
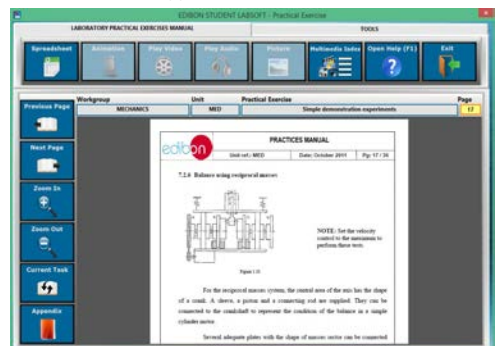
EPE. EDIBON Practical Exercise Program Package Main Screen

ERS. EDIBON Results & Statistics Program Package - Question Explanation

ECAL. EDIBON Calculations Program Package Main Screen

BDAS. Basic Data Acquisition System and Sensors:

For being used with mechanical modules.

BDAS is designed to monitor the measurements of each mechanical module from a computer.

✱ Specifications subject to change without previous notice, due to the convenience of improvement of the product.

REPRESENTATIVE:

C/ Del Agua, 14. Polígono Industrial San José de Valderas.
28918 LEGANÉS. (Madrid). ESPAÑA - SPAIN.
Tel.: 34-91-6199363   Fax: 34-91-6198647
E-mail: edibon@edibon.com   Web: **www.edibon.com**