



INTRODUCTION

The Wheel and Differential Axle Unit, "MRYE2", is an improved version of the simple wheel and axle, in which the velocity ratio is intensified with the load of a differential axle. In this case, the differential axle is made up of two pulleys of different diameters and the wheel is made up of a pulley with a major diameter than the pulleys of the differential axle. Like the simple wheel and axle, the wheel and the differential axle are coupled to the same shaft, which is mounted on ball bearings.

The unit "MRYE2" allows to study the conditions of equilibrium of forces and moment on a differential pulley block (or wheel and differential axle machine).

GENERAL DESCRIPTION

The Wheel and Differential Axle Unit, "MRYE2", is a unit that allows for investigating the mechanics of a wheel and differential axle mechanism and demonstrating the force reduction on a differential pulley block.

A wheel, consisting of a pulley with a major diameter than the differential axle assembly consisting of a pulley of diameter 111 mm (larger axle) and a pulley of diameter 33 mm (smaller axle). The wheel and differential axle is secured to a shaft supported on ball bearings. Cords and weight holders are provided.

The wheel and the differential axle are fixed together to form a differential pulley block. The forces act, on one hand, directly on the peripheral of the pulley of the wheel and, on the other hand, through a loose pulley on two pulleys of differential axle. Easy to exchange weights permit the load to be varied so that equilibrium is obtained.

A single cord is attached to the wheel and wrapped around a number of times before leaving it hanging vertically. A weight holder is added to the end.

A second cord is attached between the larger and smaller axles of the differential axle. A weight holder and a loose pulley are hanged from the cord of the differential axle, which allows for a vertical suspension while the axle rotates.



ISO 9001: Quality Management (for Design, Manufacturing, Commercialization and After-sales service)



European Union Certificate (total safety)



Certificates ISO 14001 and ECO-Management and Audit Scheme (environmental management)



Certificate and Worlddidac Member

SPECIFICATIONS

Bench-top unit with adjustable legs.

Anodized aluminum frame and panels made of painted steel.

The "MRYE2" unit mainly consists of:

Wheel, composed of a pulley with a diameter of 194 mm.

Differential axle, composed of two pulleys:

Diameter no. 1 (larger axle): 111 mm.

Diameter no. 2 (smaller axle): 33 mm.

Movable pulley:

Weight: 120 g.

Shaft supported on pivots with ball bearings.

It includes two weight holders of 55 g.

In order to carry out some of the practices with "MRYE2" 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 of the equilibrium of forces.
- 2.- Study of the equilibrium of moments.
- 3.- Demonstration of the force reduction in a differential pulley.
- 4.- Determination of the acceleration ratio and comparison with the calculated value.
- 5.- Study of the relationship between force reduction and travel of the cord.

REQUIRED ACCESSORIES (Not included)

- 2 "B" Type Set of weights. Each Set B includes:

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 hook of 50 g (0.11 pounds).

DIMENSIONS AND WEIGHTS

MRYE2:

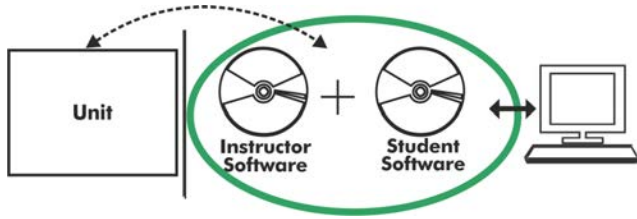
-Dimensions: 510 x 355 x 940 mm approx.

(20.07 x 13.97 x 37 inches approx.)

-Weight: 20 Kg approx.

(44 pounds approx.)

MRYE2/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.

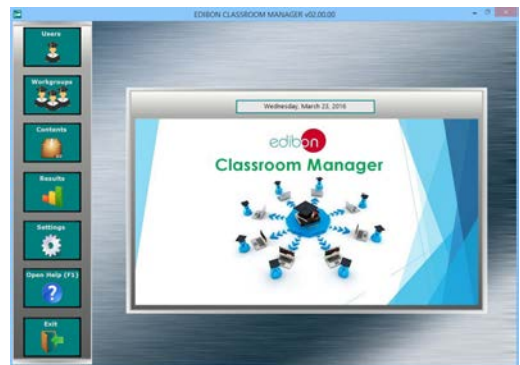
Instructor Software

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

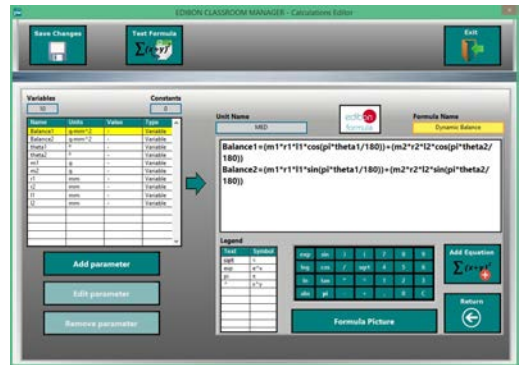
ECM-SOF is the application that allows the Instructor to register students, manage and assign tasks for workgroups, create own content to carry out Practical Exercises, choose one of the evaluation methods to check the Student knowledge and monitor the progression related to the planned tasks for individual 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

Optional
Student Software

- **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:

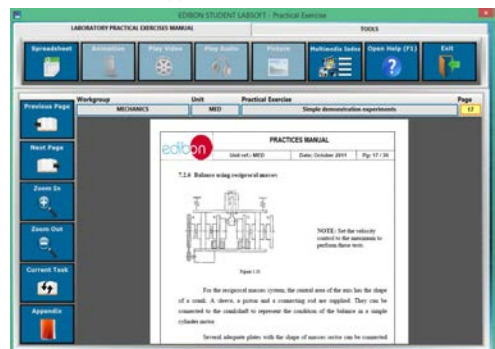
- Student Log-In & Self-Registration.
- Existing Tasks checking & Monitoring.
- Default contents & scheduled tasks available to be used from the first session.
- Practical Exercises accomplishment by following the Manual provided by EDIBON.
- Evaluation Methods to prove your knowledge and progression.
- 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:

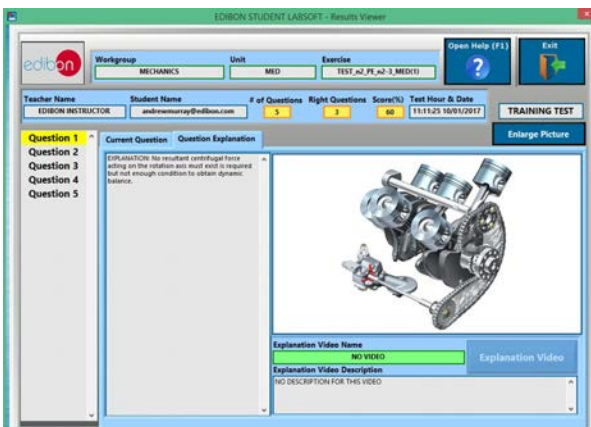
www.edibon.com/en/files/expansion/ICAI/catalog



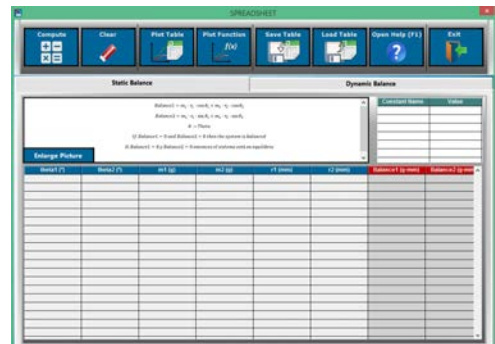
ESL-SOF. EDIBON Student LabSoft (Student Software)
Application Main Screen



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.



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REPRESENTATIVE:

