



INTRODUCTION

A winch is a device used to haul heavy items or, otherwise, move them by using a cable or rope wrapped around a pulley. Some applications for the winch include hauling a boat onto a trailer for towing, raising or lowering sails on a boat, hauling heavy items in a warehouse or factory or lifting items on a scaffolding structure.

The Winch Mechanism, "MMEL", allows to demonstrate the principle of a winch and its behaviour and to study different terms (transmission ratio, unwinding speed, angular speed, efficiency) concerned to the winch.

GENERAL DESCRIPTION

The Winch Mechanism, "MMEL", allows to study the lifting velocity and load transmission of a winch. Efficiency and load transmission can be determined by force equilibrium. The winch is equipped with a safety element to prevent reversal of direction of rotation.

A horizontal shaft running through the heart of the unit has a pulley attached to its end. This pulley has a high strength cord wrapped around its periphery and terminates in a weight holder allowing to exert an effort. The pulley is ball-bearing mounted.

The winch has fixed a pulley that also has a high strength cord wrapped around its periphery. This cord terminates with a weight holder. This cord and holder allow to exert a load. The pulley is ball-bearing mounted.

Forces are generated by sets of weights and can be quickly and easily varied. The student applies weights to the weight holder to raise the load.



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)



"Worlddidac Quality Charter" and Platinum Member of Worlddidac

SPECIFICATIONS

Anodized aluminum and steel frame and painted steel panel.

Diagram in the front panel with similar distribution to the elements in the real unit.

The unit includes:

2 Gear wheels:

Small: 14 teeth.

Large: 70 teeth.

Module: 2 mm each.

Pulleys:

Material: aluminum.

Driving pulley, diameter: 250 mm.

Driven pulley, diameter: 125 mm.

Set of weights and holders:

Driving pulley:

1 x 5N.

4 x 2N.

2 x 1N.

2 x 0.5N.

It includes a 0.5 N weights holder.

Driven pulley:

1 x 50N.

2 x 20N.

1 x 10N.

1 x 5N.

It includes a 5 N weights holder.

The unit includes safety element to prevent reversal of direction of rotation.

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

EXERCISES AND PRACTICAL POSSIBILITIES

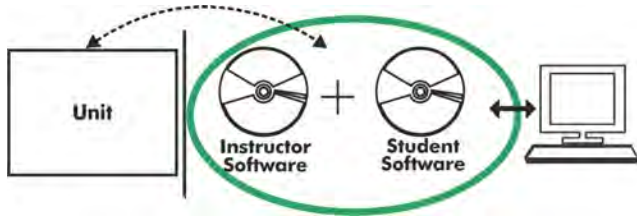
- 1.- Determination of the transmission ratio of the winch.
- 2.- Determination of the unwinding speed of the winch.
- 3.- Determination of the angular speed of the winch.
- 4.- Determination of the efficiency of the winch.
- 5.- Estimation of the velocity ratio.
- 6.- Study of the behaviour of a winch, especially noting the characteristics of the unit with increasing load.
- 7.- Examination of the safety features of the winch.

DIMENSIONS AND WEIGHTS

MREL:

- Dimensions: 400 x 450 x 850 mm approx.
(15.75 x 17.72 x 33.46 inches approx.).
- Weight: 30 Kg approx.
(66 pounds approx.).

MMEI/ICAI. Interactive Computer Aided Instruction Software System:



With no physical connection between unit and computer, 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.

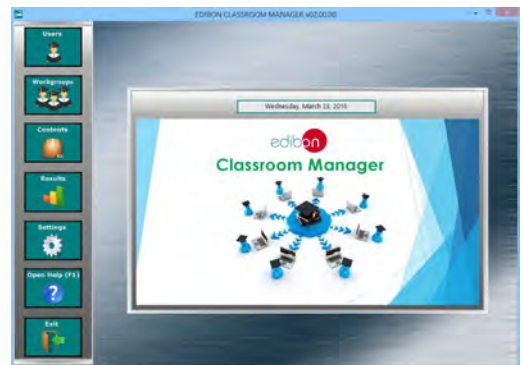
Instructor Software

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

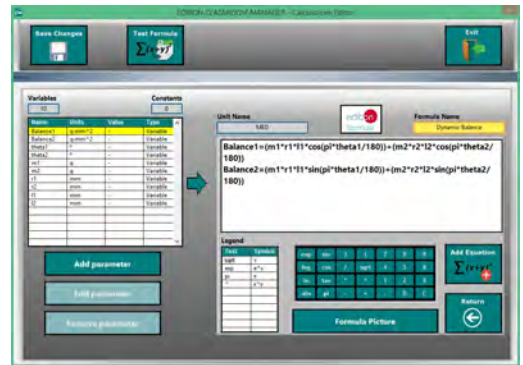
ECM-SOF is the application that allows the Instructor to register students, manage and assign tasks for workgroups, create own content to carry out Practical Exercises, choose one of the evaluation methods to check the Student knowledge and monitor the progression related to the planned tasks for individual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

Innovative features:

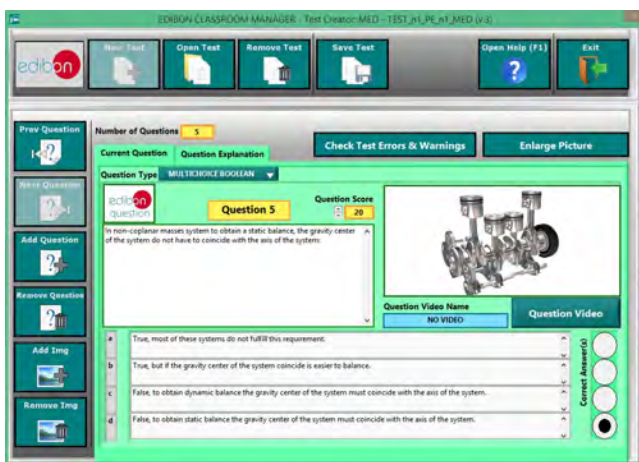
- User Data Base Management.
- Administration and assignment of Workgroup, Task and Training sessions.
- Creation and Integration of Practical Exercises and Multimedia Resources.
- Custom Design of Evaluation Methods.
- Creation and assignment of Formulas & Equations.
- Equation System Solver Engine.
- 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:

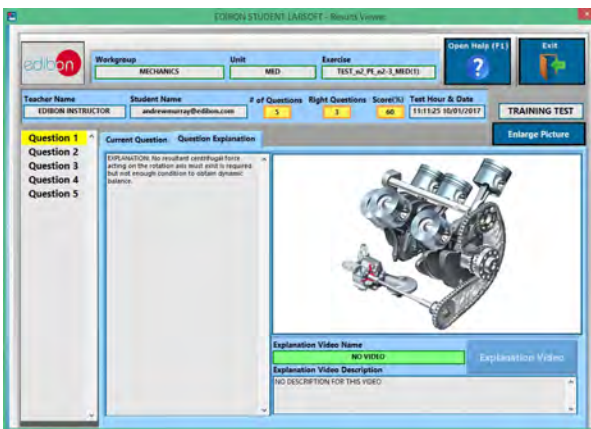
www.edibon.com/en/files/expansion/ICAI/catalog



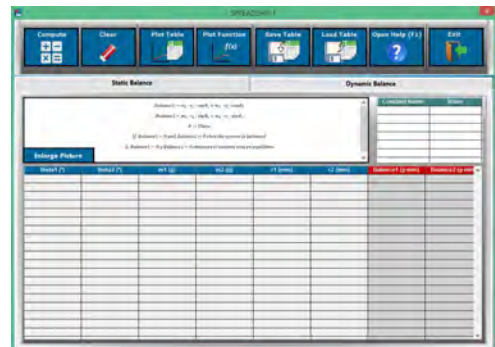
ESL-SOF. EDIBON Student LabSoft (Student Software)
Application Main Screen



EPE. EDIBON Practical Exercise Program Package Main Screen



ERS. EDIBON Results & Statistics Program Package - Question Explanation



ECAL. EDIBON Calculations Program Package Main Screen

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



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

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REPRESENTATIVE:

