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↳ PRODUCTS  
↳ 140.- BIOMEDICAL  
ENGINEERING

## INTRODUCTION

As technology is improving, new highly advanced treatments and therapies are being developed. It is of great importance to acquire a basic knowledge of them in order to ensure a higher success rate in the healing of patients.

Microwave therapy uses microwave radiation to warm a specific area. It is especially used to enhance tissue recovery or muscle relaxation, and to damage or kill cancer cells.

The Biomedical Microwave Thermal Effects Teaching Unit, "BIMTE", provides a simulating option to test microwave thermal effects for further relation to the microwave therapy itself, so that students better understand the principles of this new therapy.

## GENERAL DESCRIPTION

The Biomedical Microwave Thermal Effects Teaching Unit, "BIMTE", allows the students to test microwave therapy, so as to achieve a better knowledge on its functioning and internal mechanism.

The Biomedical Microwave Thermal Effects Teaching Unit, "BIMTE", includes:

- Real model of the microwave instrument.
- Model of an arm to apply the microwave therapy in order to understand its effects.



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

This unit is composed of:

Instrument for microwave therapy:

Application of microwave therapy:

Adjustable treatment time: 1-30 minutes.

Pulsed peak power on 50 Ohm load: 1600 W.

Continuous peak power on 50 Ohm load: 250 W.

50 pre-set protocols and 50 protocols for storing.

Insulation class: I BF type.

Risk class (93/42/CEE): IIB.

LCD display to view and check the operating parameters.

3 buttons to control the power, the therapy mode and the treatment time.

Movable arm and applicator for a better positioning of the microwave radiation.

Model of the arm:

Model based on a ceramic core to simulate the bone and a surrounding wet sponge to simulate muscle and fat. This simulation will have several temperature sensors at different depths so that the thermal effects produced by the ultrasound device can be measured.

**Cables and accessories**, for normal operation.

**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.- Basic principles of microwave.   | 5.- Basic principles of cancer.           |
| 2.- Study of microwave therapy.  | 6.- Study of cancer treatments.           |
| 3.- Microwave therapy applications.  | 7.- Testing the ablation of cancer cells. |
| 4.- Testing of the Microwave diathermic effect to check its effectiveness. |   |

### REQUIRED SERVICES

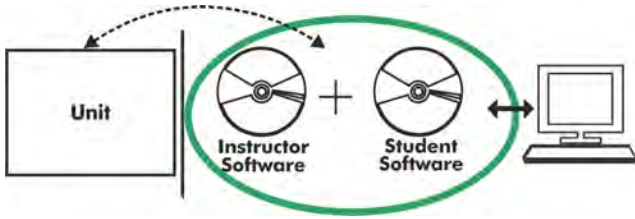
- Electrical supply: single-phase, 220V/50Hz or 110V/60Hz.

### DIMENSIONS AND WEIGHTS

BIMTE:

- Dimensions: 390 x 390 x 900 mm approx.  
(15.35 x 15.35 x 35.43 inches approx.)
- Weight: 50 Kg approx.  
(110 pounds approx.)

**BIMTE/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.

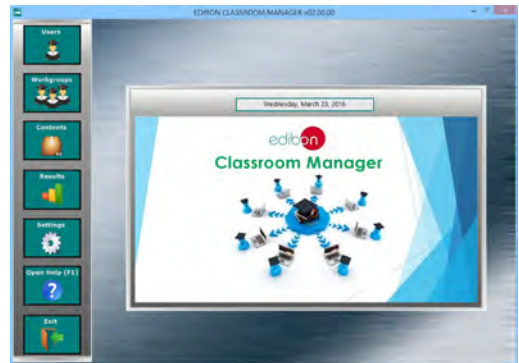
Instructor Software

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

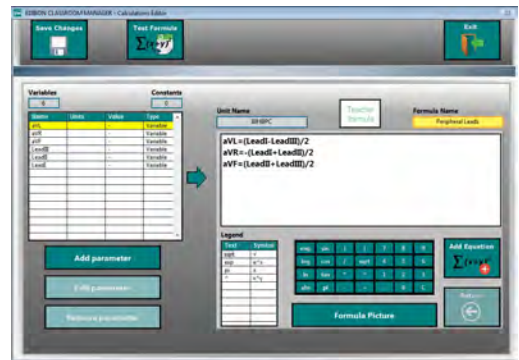
ECM-SOF is the application that allows the Instructor to register students, manage and assign tasks for workgroups, create own content to carry out Practical Exercises, choose one of the evaluation methods to check the Student knowledge and monitor the progression related to the planned tasks for individual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

Innovative features:

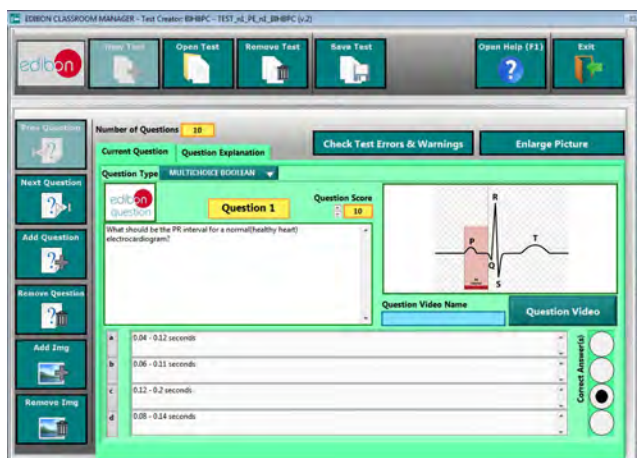
- User Data Base Management.
- Administration and assignment of Workgroup, Task and Training sessions.
- Creation and Integration of Practical Exercises and Multimedia Resources.
- Custom Design of Evaluation Methods.
- Creation and assignment of Formulas & Equations.
- Equation System Solver Engine.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

**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:

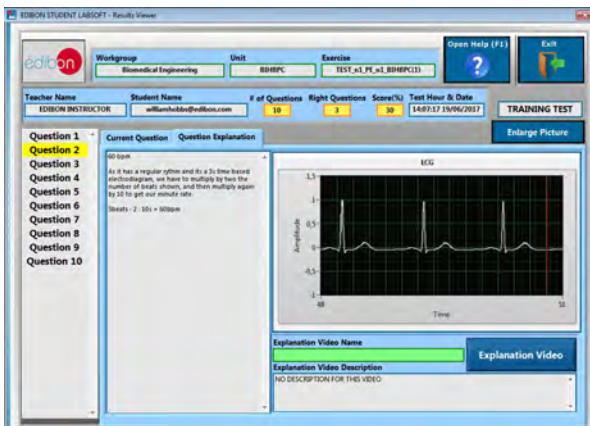
[www.edibon.com/en/files/expansion/ICAI/catalog](http://www.edibon.com/en/files/expansion/ICAI/catalog)



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.



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REPRESENTATIVE:

