



INTRODUCTION

Sedimentation is a separation stage of solids suspended in a water volume or current where particles heavier than water settle due to the action of gravity. In the industry, the equipment designed to carry out the sedimentation operations are generally the sedimentation tanks, also known as clarifiers. These types of systems are mounted in stages of primary treatment to eliminate the particles in suspension, such as sands. The use of these tanks is also very effective to remove the colloids formed in chemical stages.

The Sedimentation Study Unit, "ESED", unit provides a facility for studying the basic physical processes involved in sedimentation, which the applications cover fields like chemical engineering, water treatment and other industrial processes.



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

GENERAL DESCRIPTION

The Sedimentation Study Unit, "ESED", allows studying and compare the sedimentation processes of several suspensions simultaneously. It is formed by five sedimentation methacrylate cylinders mounted vertically on a panel, incorporating measuring scales appropriate lighted for easing observation.

All that, enables the simultaneous study of the behaviour of five different suspensions.

Each cylinder may be removed from the panel for the appropriate washing and conditioning.

The unit is supplied with: stopwatch, light diffuser screen, fluorescent tubes, beakers, graduated cylinder and pycnometer.

It enables to have available several amounts in suspension, in order to study the differences in the sedimentation regimens, measuring the changes in heights of the solid-liquid interfaces respect to time.

SPECIFICATIONS

Bench-top unit.

Anodized aluminum frame and panels made of painted steel.

Five transparent sedimentation cylinders:

Dimensions: 1 m x 50 mm approx.

Auxiliary scale on each tank.

Mounted vertically.

Detachable for cleaning and conditioning.

Back lighting to the tanks for best observation:

Light diffuser screen.

Two fluorescent lamps (60 W).

Included accessories:

Stopwatch.

Three beakers of 2 l capacity.

Graduated cylinder of 1 l capacity.

Pycnometer of 50 ml.

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.



ESED detail

EXERCISES AND PRACTICAL POSSIBILITIES

- 1.- Variation of the sedimentation characteristics with the concentration and suspension height.
- 2.- Effect of initial concentration on sedimentation characteristics.
- 3.- Effect of initial suspension height on sedimentation characteristics.
- 4.- Construction of settling rate curves against concentration form a single batch test.
- 5.- Effect of particle size distribution.
- 6.- Identification of the different sedimentation regimes.
- 7.- Use of flocculating additives.
- 8.- Construction of settling rate curves.
- 9.- Visualization of the retarded sedimentation.
- 10.-Study of the differences between a clarifier and a classifier.
- 11.-Study and visualization of the differential sedimentation.
- 12.-Study of the methods of sinking and floating.

REQUIRED SERVICES

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

RECOMMENDED ACCESSORIES (Not included)

- Scales.

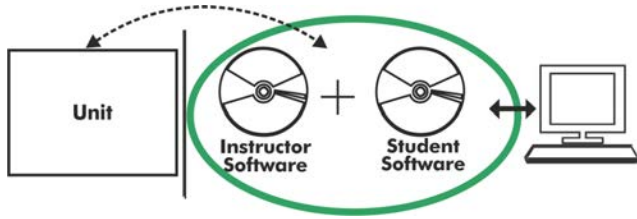
DIMENSIONS AND WEIGHTS

ESED:

-Dimensions: 550 x 400 x 1300 mm approx.
(21.65 x 15.74 x 51.18 inches approx.)

-Weight: 35 Kg approx.
(77.16 pounds approx.)

ESED/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.

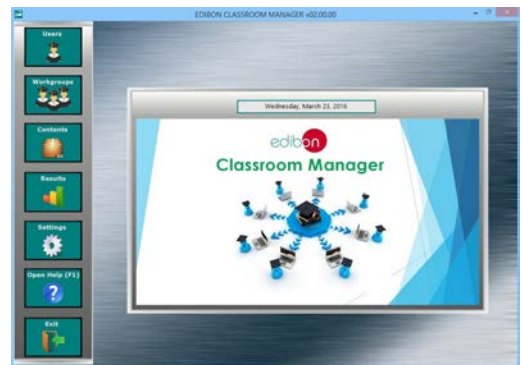
Instructor Software

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

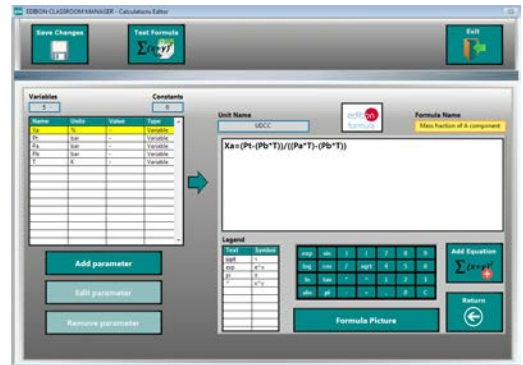
ECM-SOF is the application that allows the Instructor to register students, manage and assign tasks for workgroups, create own content to carry out Practical Exercises, choose one of the evaluation methods to check the Student knowledge and monitor the progression related to the planned tasks for individual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

Innovative features:

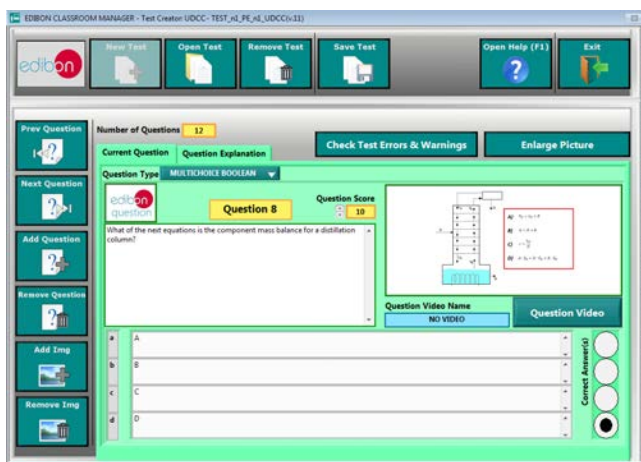
- User Data Base Management.
- Administration and assignment of Workgroup, Task and Training sessions.
- Creation and Integration of Practical Exercises and Multimedia Resources.
- Custom Design of Evaluation Methods.
- Creation and assignment of Formulas & Equations.
- Equation System Solver Engine.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

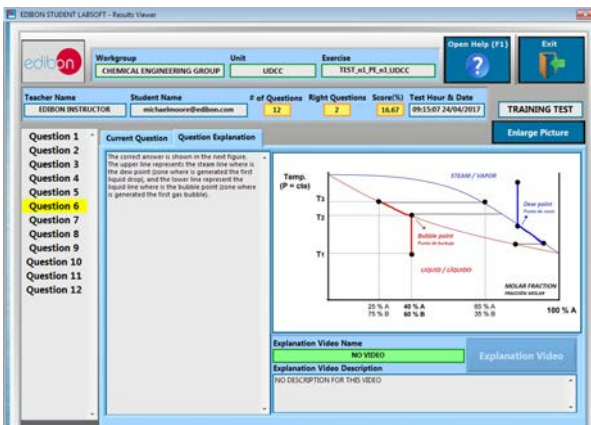
www.edibon.com/en/files/expansion/ICAI/catalog



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

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



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REPRESENTATIVE:

