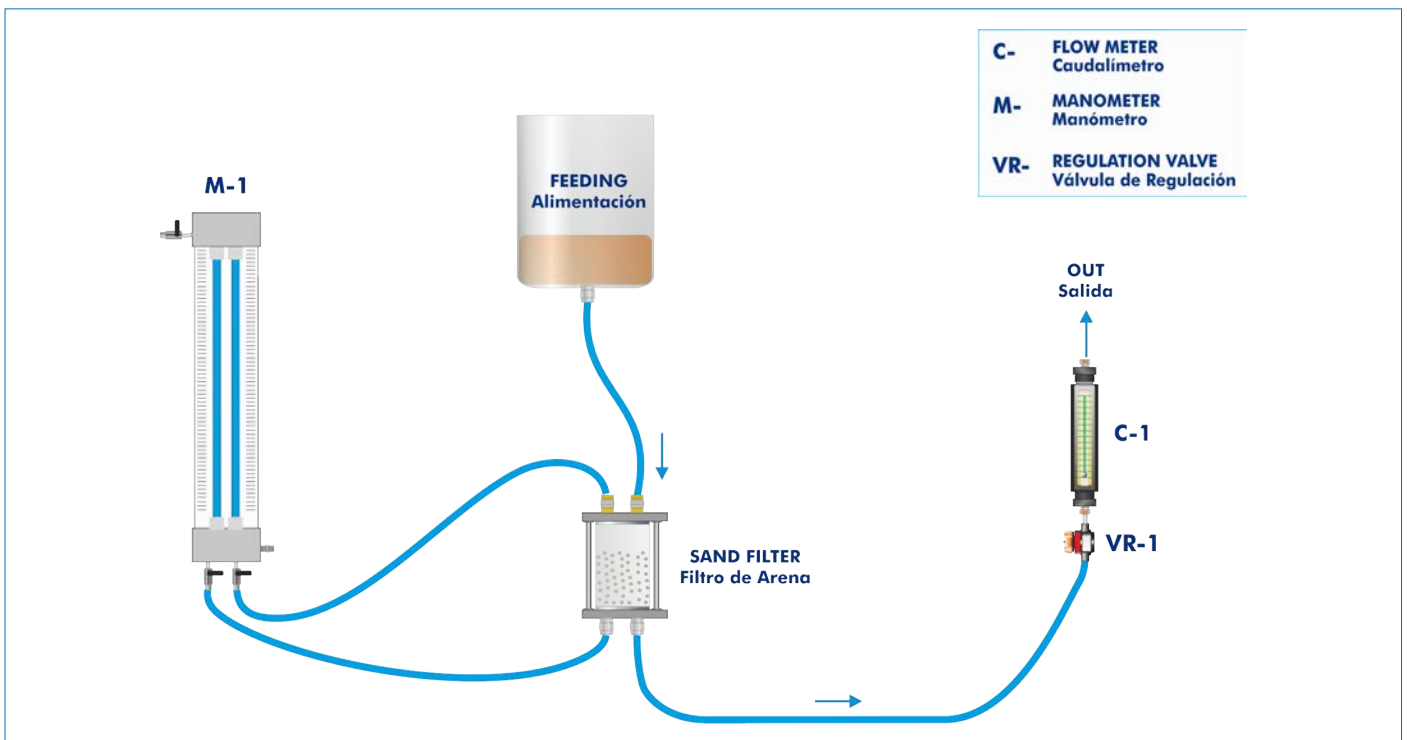




PROCESS DIAGRAM AND UNIT ELEMENTS ALLOCATION



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

INTRODUCTION

Filtration is the separation of a mixture of solids and fluids that includes the passage of most of the fluid through a porous media, which retains most of the solid particles of the mixture. The filtering media is the barrier that enables the passage of the liquid while it retains most of the solids, which accumulate in a layer over the surface or filter (filtering bed), so the fluid will go through the solids bed and the retention membrane.

The Filterability Index Unit, "PEIF", is a unit for demonstrating the filtering process through a porous media. It enables a water quality test to be made on a suspension to be filtered through sand or similar granular media.

GENERAL DESCRIPTION

This unit utilises a bed of granular material, normally sand, which can be chosen by the student to suit his own purposes. The measurements taken with this unit enable a filterability index to be calculated which has significance in deep bed filter performance.

The "PEIF" unit is a bench-top unit composed of a feeding tank, where the initial solution of water with solids in suspension is placed. During the normal operation, the tank is communicated with the sand filter upper part, through of a pipe.

The filter lower part is communicated with the flowmeter. A regulation valve located at the flowmeter allows to change the flow which passes through the filter.

The fluid pressure is obtained by means of the gravity, because the feeding tank is placed in high. The pressure is measured by a manometer.

The filter cartridge is easily removable, so it allows to study the difference between different media, both in compositions and in mesh.

This unit, in addition to students teaching and training, also can be used in routine control at water purification works, or at water treatment works which employ tertiary filtration.

SPECIFICATIONS

Bench-top unit.

Anodized aluminum frame and panels made of painted steel.

Main metallic elements made of stainless steel.

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

Feeding tank of 1 l capacity.

Filtration unit, with porous bed filter, removable:

Height of the filter: 70 mm.

Test filter cell diameter: 44 mm.

The filter unit can be dismounted to change the sand.

A regulation valve controls the flow, which is observed on a flow meter.

Water flow meter, range: 0.07 - 0.55 l/min.

Differential manometer of 500 mm, to measure the head loss.

Corrosion-resistant materials are used.

The elements and tubing connections of this unit are transparent so that the operation can be observed and air bubbles avoided.

Accessories included with the unit:

Thermometer, with range from -10°C to 110°C .

Stopwatch.

1 l graduated test tube.

0.6 l glass beaker to collect filtrate.

Air pump for purging the manometer.

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



PEIF detail

EXERCISES AND PRACTICAL POSSIBILITIES

- 1.- Study of the filtration operation principles.
- 2.- Study of Darcy equation.
- 3.- Deep bed filtration of suspensions with different beds.
- 4.- Calculation of Filterability Index.
- 5.- Sand filter cleaning.

REQUIRED SERVICES

- Water supply.
- Drain.

REQUIRED ACCESSORIES (Not included)

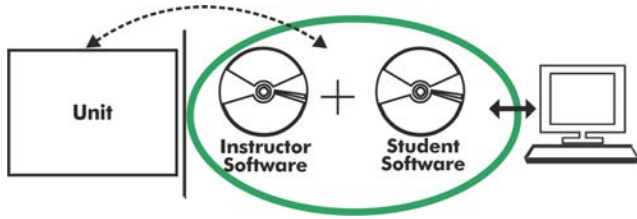
- Scales.

DIMENSIONS AND WEIGHTS

PEIF:

- Dimensions: 600 x 400 x 800 mm approx.
(23.62 x 15.74 x 31.49 inches approx.)
- Weight: 25 Kg approx.
(55.11 pounds approx.)

PEIF/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.

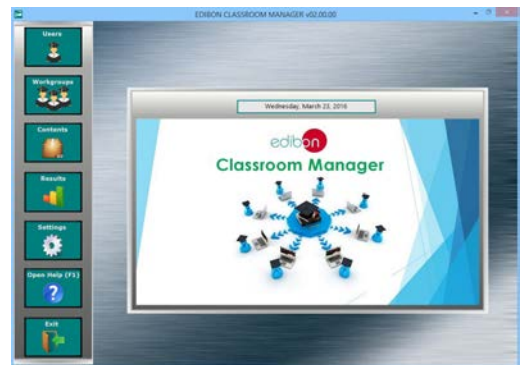
Instructor Software

- 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:

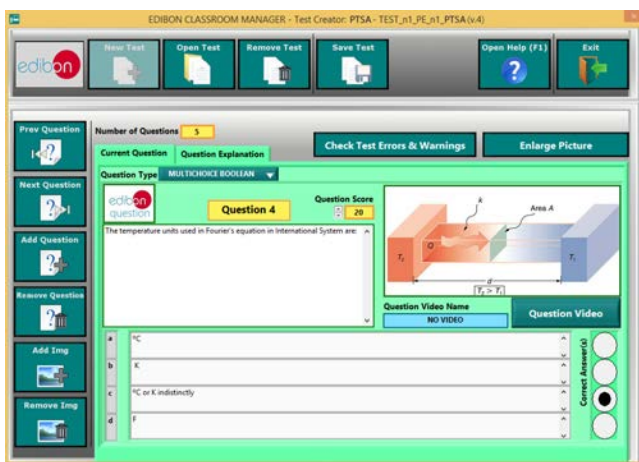
- User Data Base Management.
- Administration and assignment of Workgroup, Task and Training sessions.
- Creation and Integration of Practical Exercises and Multimedia Resources.
- Custom Design of Evaluation Methods.
- Creation and assignment of Formulas & Equations.
- Equation System Solver Engine.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

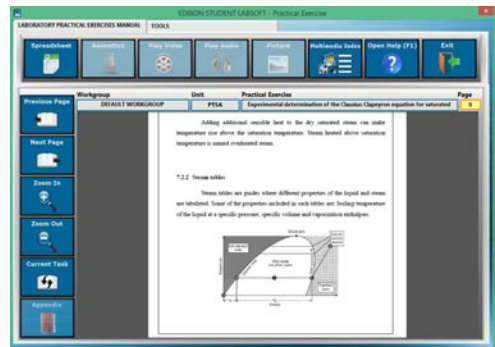
- **Student Log-In & Self-Registration.**
- **Existing Tasks checking & Monitoring.**
- **Default contents & scheduled tasks available to be used from the first session.**
- **Practical Exercises accomplishment by following the Manual provided by EDIBON.**
- **Evaluation Methods to prove your knowledge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

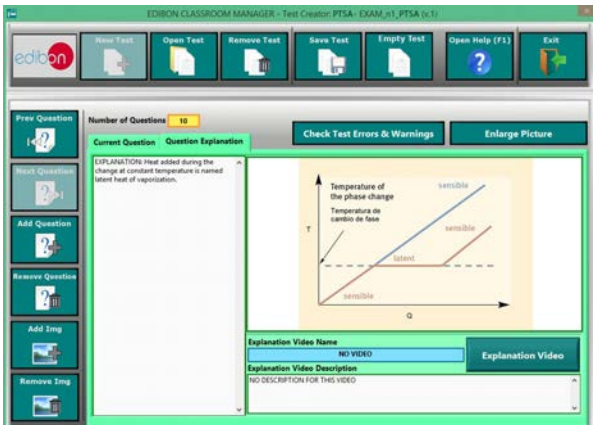
www.edibon.com/en/files/expansion/ICAI/catalog



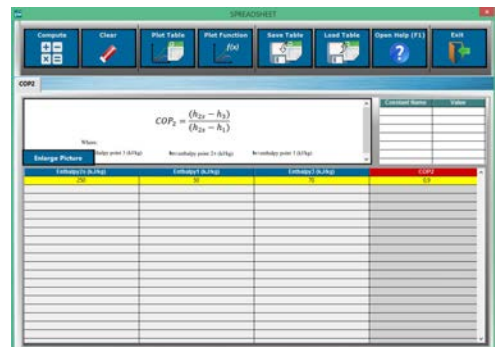
ESL-SOF. EDIBON Student LabSoft (Student Software)
Application Main Screen



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:

