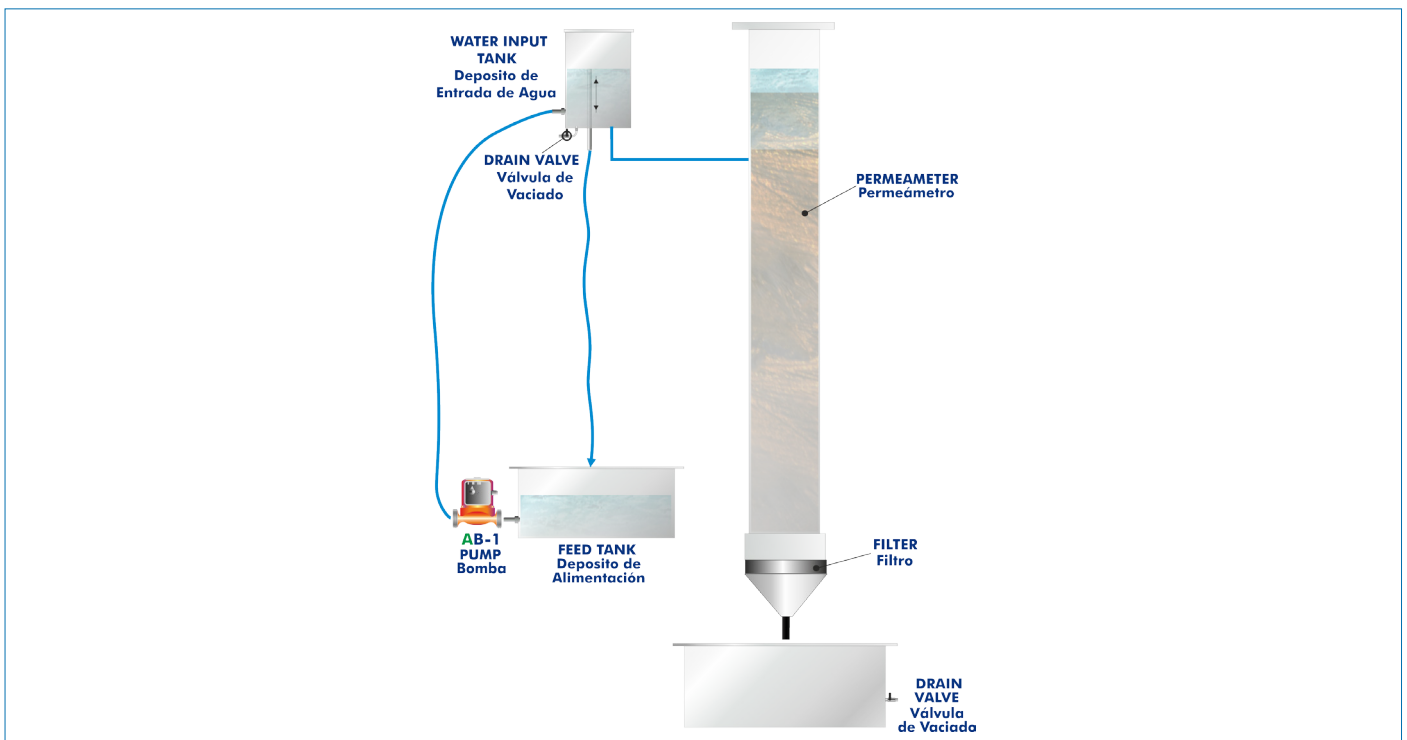




PROCESS DIAGRAM AND UNIT ELEMENTS ALLOCATION



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)



"Worlddidac Quality Charter" and Platinum Member of Worlddidac

INTRODUCTION

Permeability is the ability of a material to allow a liquid to pass through it without altering its internal structure. When talking about soil permeability, the typical fluid under study is water.

Soil permeability is measured through the coefficient of permeability, k , which is a parameter that defines the ease or difficulty that the soil offers to the flow of water.

In geology, determining the permeability of the soil is an important factor in hydraulic studies related to the bearing capacity of the substratum (for example, prior to the construction of buildings or civil works), for erosion studies and for mineralogy, among other applications.

The Drain Permeameter, "PPD", has been designed to measure the permeability of different filter materials when a fluid is passing through them, as well as to determine the most optimal combination of filter/soil.

GENERAL DESCRIPTION

The Drain Permeameter, "PPD", designed by EDIBON, can be used both for teaching purposes and for laboratory tests and research.

The main element is a transparent column that can be filled with any type of soil and has a removable base where the filter material under study is placed. The unit includes as filter material three metal filters of different mesh size that can be interchanged in an easy and quick way.

Water is added to the column at constant pressure and the permeated water and soil are collected at the base, in a tank placed under the column. The discharge of the drain can be observed to evaluate the efficiency of the filter material.

To add water at constant pressure to the permeameter, water is raised by a pump from a feed tank to a water inlet tank that is connected to the upper part of the permeameter. This inlet tank has an overflow channel adjustable in height that discharges directly into the feed tank. In this way, all water that exceeds the desired level in the permeameter will return to the feed tank, thus maintaining a constant water level in the permeameter.

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.

Transparent column:

Made of PMMA.

Diameter: 100 mm.

For any type of soil.

Removable test section at the base of the column to house the filter medium to be studied.

Three metal filters of different mesh diameter.

Constant pressure water supply device. It consists of:

Water inlet tank, which allows to vary the pressure in the permeameter by varying the water level with an adjustable height spillway.

Circulatory pump.

Feed tank. Capacity: 20 l approx.

Tank to collect permeated water and soil. Capacity: 20 l approx.

Three drain valves in the tanks.

Control panel:

Pump switch.

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.



PPD detail

EXERCISES AND PRACTICAL POSSIBILITIES

- 1.- Research about drain filter materials.
- 2.- Selection of optimum filter/soil combinations.
- 3.- Determination of the relative efficiency of drain filter materials.
- 4.- Determination of the coefficient of permeability.
- 5.- Influence of the hydraulic load variation.

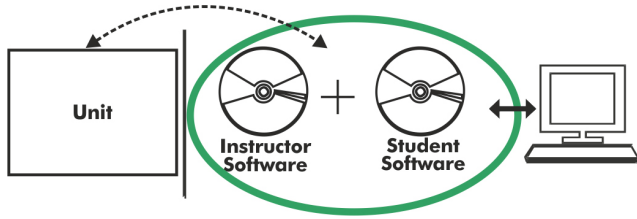
REQUIRED SERVICES

- Electrical supply: single-phase 200 VAC – 240 VAC/50 Hz or 110 VAC – 127 VAC/60 Hz.
- Water supply and drain.

DIMENSIONS AND WEIGHTS

- PPD:
- Dimensions: 500 x 700 x 1300 mm approx.
(19.68 x 27.55 x 51.18 inches approx.)
 - Weight: 30 kg approx.
(66 pounds approx.)

PPD/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.

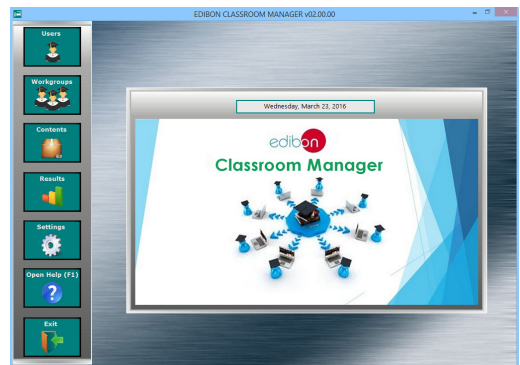
Instructor Software

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

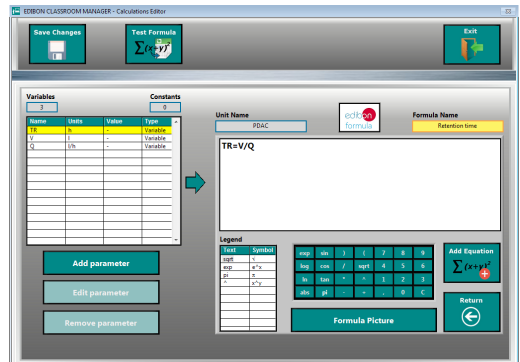
ECM-SOF is the application that allows the Instructor to register students, manage and assign tasks for workgroups, create own content to carry out Practical Exercises, choose one of the evaluation methods to check the Student knowledge and monitor the progression related to the planned tasks for individual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

Innovative features:

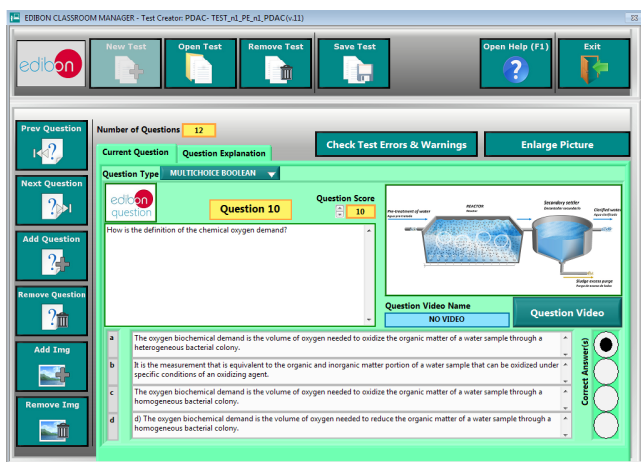
- User Data Base Management.
- Administration and assignment of Workgroup, Task and Training sessions.
- Creation and Integration of Practical Exercises and Multimedia Resources.
- Custom Design of Evaluation Methods.
- Creation and assignment of Formulas & Equations.
- Equation System Solver Engine.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



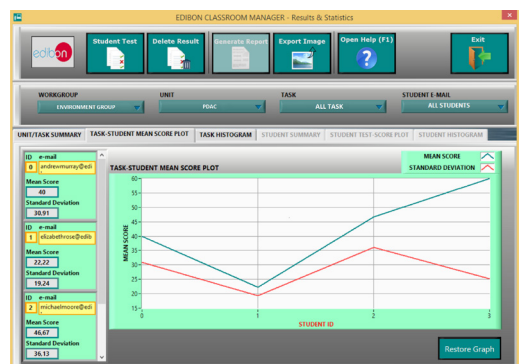
ECM-SOF. EDIBON Classroom Manager (Instructor Software) Application Main Screen



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:

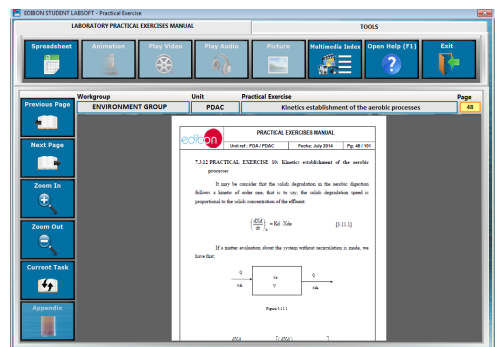
- Student Log-In & Self-Registration.
- Existing Tasks checking & Monitoring.
- Default contents & scheduled tasks available to be used from the first session.
- Practical Exercises accomplishment by following the Manual provided by EDIBON.
- Evaluation Methods to prove your knowledge and progression.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

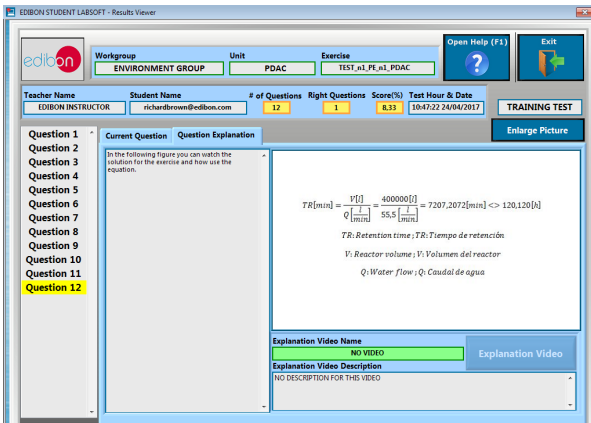
www.edibon.com/en/files/expansion/ICAI/catalog



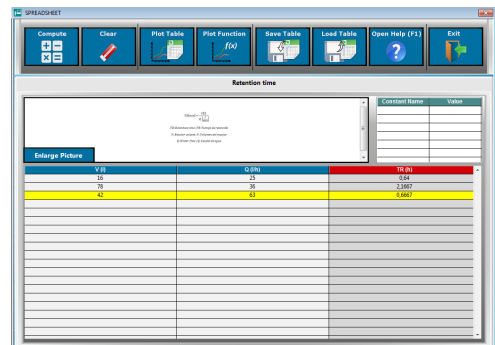
ESL-SOF. EDIBON Student LabSoft (Student Software)
Application Main Screen



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.



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REPRESENTATIVE:

