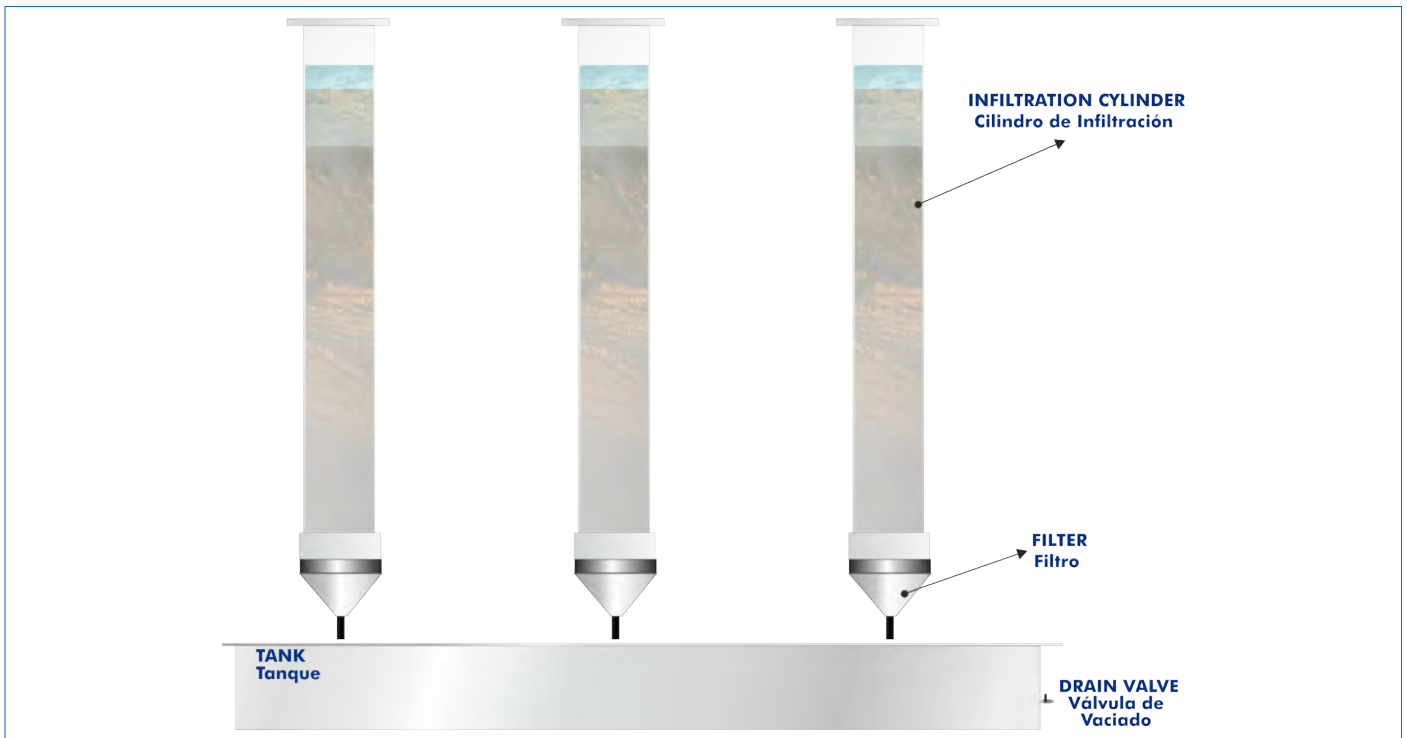


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 Products
 Products range
 Units
 13.- Environment



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

Infiltration is a process in which water enters the soil, generally by downward flow through all or part of the soil. An understanding of the processes and factors influencing infiltration is needed for effective soil and water management, particularly in the field of irrigation.

The rate at which water infiltrates into the soil is an important factor to be considered when designing an irrigation system. It varies from one soil to another, depending on the structure of the soil and moisture conditions.

Research work on infiltration rates is frequently carried out on undisturbed soils in the field, but this can involve complex techniques and a large investment of time, particularly as field demonstrations are difficult to replicate because the moisture content and structure of the soil will vary considerably through the year.

The Demonstration Infiltration Unit, "PEDI", has been developed for the comparative study of infiltration processes in the laboratory, which are essential for the study of any form of irrigation. Water movement through the soil can be seen and measured and infiltration and penetration rates can be ascertained.

GENERAL DESCRIPTION

The Demonstration Infiltration Unit, "PEDI", is a small scale unit designed to demonstrate infiltration processes and to understand the effects of soil texture and structure on infiltration and the effects of existing moisture conditions of the soil on infiltration.

This unit comprises three transparent graduated cylinders in which soil samples are placed. Water poured onto the soil surface can then be observed as it infiltrates the sample. Each cylinder features a graduated scale so that observations may be quantified. The cylinders have a permeable perforated plate at the bottom that retains the soil samples while allowing the water to drain through and facilitates drainage without undue soil loss.

Placed under the cylinders, there is a tank to collect the water and the smaller soil particles under study.

Water is poured onto the soil surface into each cylinder and its progress through the samples can be observed.

SPECIFICATIONS

Anodized aluminum frame with 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.

Three transparent graduated cylinders:

External diameter: 100 mm.

Height: 600 mm.

With a permeable perforated plate at the bottom, where a filter to disable the soil introduced to be swept by the water is placed.

Tank to collect the water and the smaller soil particles under study:

Capacity: 25 l.

It has a drain valve.

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 principles of the relationship between the type of soil and infiltration and penetration rates.
- 2.- Comparison of the cumulative infiltration, infiltration rate and penetration depth as a function of time in different types of soil.
- 3.- Study of the empirical equations as an approximation of infiltration rate.
- 4.- Visualization of the effect of crusting on infiltration.
- 5.- Visualization of the effect of soil particle size on infiltration.
- 6.- Study of the effect of organic matter content on the infiltration and penetration rate.
- 7.- Study of the effect of non-homogeneous soil strata on infiltration and penetration rates.
- 8.- Study of the effect of moisture content on the infiltration and penetration rate.
- 9.- Study of the effect of straw mulch on infiltration rate.
- 10.- Study of the effect of soil texture and structure on infiltration.
- 11.- Study of the effect of surface on infiltration.

REQUIRED SERVICES

- Water supply and drainage.

DIMENSIONS AND WEIGHTS

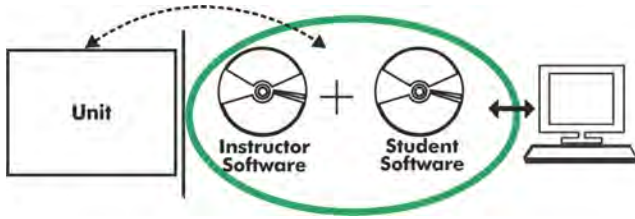
- Dimensions: 500 x 400 x 900 mm. approx.
(19.68 x 15.75 x 35.43 inches approx.)
- Weight: 50 Kg. approx.
(110 pounds approx.)

REQUIRED ACCESSORIES (Not included)

- Soil samples.
- A chronometer to enable the speed of infiltration to be measured.
- A Sieve.

Optional

PEDI/ICAI. Interactive Computer Aided Instruction Software System:



Without a physical connection between unit and computer (PC), this complete software package consists of an Instructor Software (EDIBON Classroom Manager -ECM) totally integrated with the Student Software (EDIBON Student Labsoft -ESL). Both are interconnected so that the teacher knows at any moment what is the theoretical and practical knowledge of the students.

Instructor Software

-ECM. EDIBON Classroom Manager (Instructor Software).

ECM 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 Workgroups, Tasks and Training sessions.

Creation and Integration of Practical Exercises and Multimedia Resources.

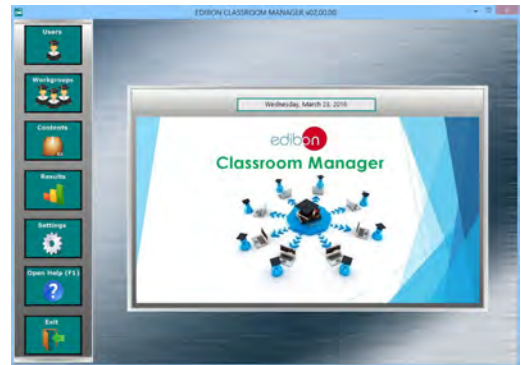
Custom Design of Evaluation Methods.

Creation and assignment of Formulas & Equations.

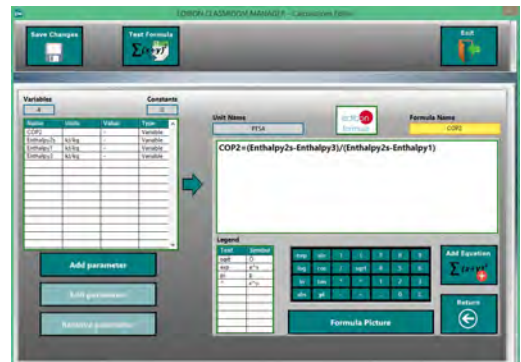
Equation System Solver Engine.

Updatable Contents.

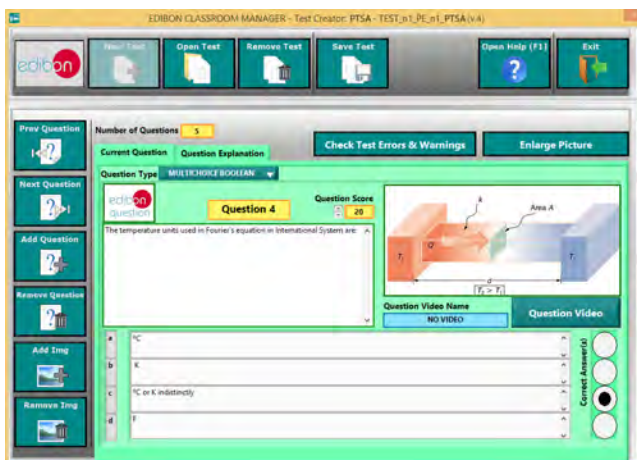
Report generation, User Progression Monitoring and Statistics.



ECM. 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

-ESL. EDIBON Student Labsoft (Student Software).

ESL 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.

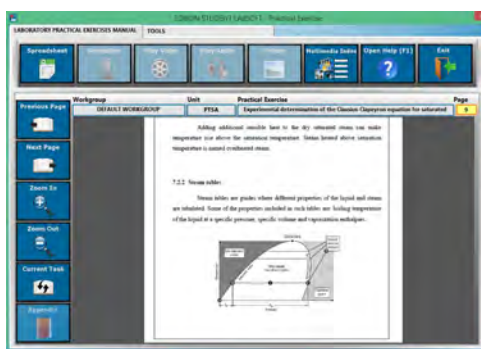
Innovative features:

- 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.**

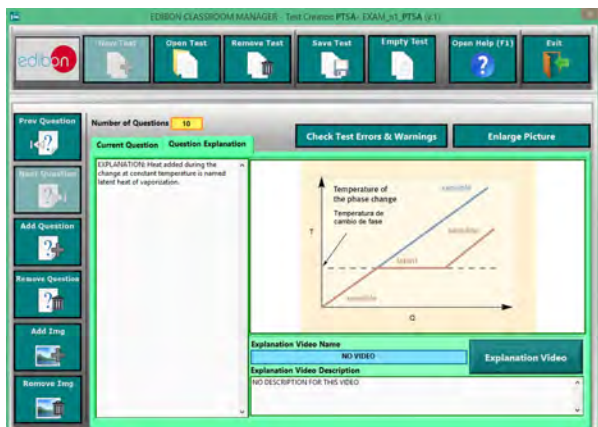
For more information see ICAI catalogue. Click on the following link:
www.edibon.com/products/catalogues/en/ICAI.pdf



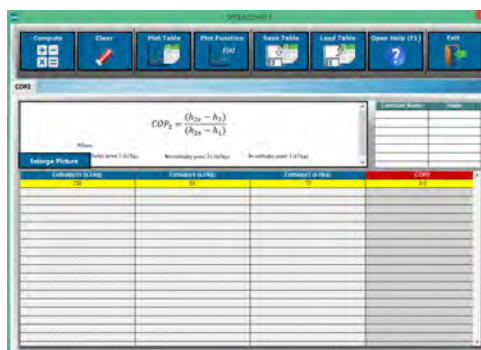
ESL. EDIBON Student LabSoft (Student Software) Application Main Screen



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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