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## DESCRIPTION

The Deep Bed Filter Unit allows us to filter a fluid in order to eliminate particles in suspension, to have it in more adequate conditions for its subsequent use or consumption.

Students can visualize and study with this unit one of the most common treatment processes of water destined to supplying cities and in most industrial uses.

In the design of this unit, all the elements have been integrated in a mobile, self-contained and compact system, that permits an itemized study of the deep-bed filter.

Taking note of both the pressures and the efficiency of the filtering throughout the column, through sampling and pressure measurements, the student can rapidly and simply visualize and study the filtering process.



ISO 9001:2000  
Certificate of Approval



European Union Certificate



Certificates ISO 14001: 2004 and  
ECO-Management and Audit Scheme  
(environmental management)



Worlddidac Quality Charter  
Certificate  
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## SPECIFICATIONS

Anodized aluminium structure and panels in painted steel.

Main metallic elements in stainless steel.

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

Filter column:

In it the porous media is formed. This includes the following elements:

Transparent filter column of circular section (column height: 1300 mm), with removable top and bottom covers.

Support filter of the porous bed.

Filtering bed.

30 Pressure takings.

29 Sample capturing takings.

Tanks:

Their objective is to prepare the suspension for being filtered. There is a tank with two reservoirs:

Reservoir 1 = 350 litres.

Reservoir 2 = 350 litres.

Total capacity: 700 litres.

Both reservoirs have water height level and system for agitation with help of the water return.

Pump:

Centrifugal pump: 0.6 kW, 2850 r.p.m.

In order to take the fluid to the upper part of the filter column (filtering operations), or the bottom part of the column (washing operation of the porous bed).

Pipes and valve system to establish several circuits and regulate the flows.

Flowmeter, rotameter type, range: -50 l./h. to 500 l./h.

Manometric board:

The piezometric pipes which fit with the static pressure taking points in the filter column are assembled in it.

Number of piezometric pipes: 30.

Column height: 1300 mm.

Mesh filter.

Air purger for eliminating bubbles which are initially in the circuit.

The unit incorporates wheels for mobility.

Cables and Accesories, for normal operation.

Manuals:

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

## EXERCISES AND PRACTICAL POSSIBILITIES

### Some Practical Possibilities of the Unit:

- 1.- Determination of the initial head loss of a porous bed.
- 2.- Evolution through time of the head loss of the porous bed.
- 3.- Measuring how fast total head loss increases with filtration run time.
- 4.- Measuring pressure drop profiles through the filter bed.
- 5.- Measuring suspension concentration profiles through the filter bed.
- 6.- Filtration efficiency. Clarification.
- 7.- Demonstration of reversed flow fluidisation and backwashing.
- 8.- Filtering in open and closed circuit.
- 9.- Washing and filtering circuits.
- 10.- The column may be readily adapted for absorption and ion exchange studies.

## REQUIRED SERVICES

- Electrical supply: single-phase, 220V./50Hz or 110V./60Hz, directly from the mains.
- Water supply and drainage.

## DIMENSIONS & WEIGHTS

- Dimensions: 2400 x 1500 x 2700 mm. approx.
- Weight: 300 Kg. approx.

## RECOMMENDED ACCESSORIES

- Bottles for collecting samples.
- Turbidity meter or spectrophotometer.

## AVAILABLE VERSIONS

Offered in this catalogue:

- EFLP. **Deep Bed Filter Unit.**

Offered in other catalogue:

- EFLPC. **Computer Controlled Deep Bed Filter Unit.**

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



C/ Del Agua, 14. Polígono Industrial San José de Valderas.  
28918 LEGANÉS (Madrid). SPAIN.  
Phone: 34-91-6199363 FAX: 34-91-6198647  
E-mail: edibon@edibon.com WEB site: www.edibon.com

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