



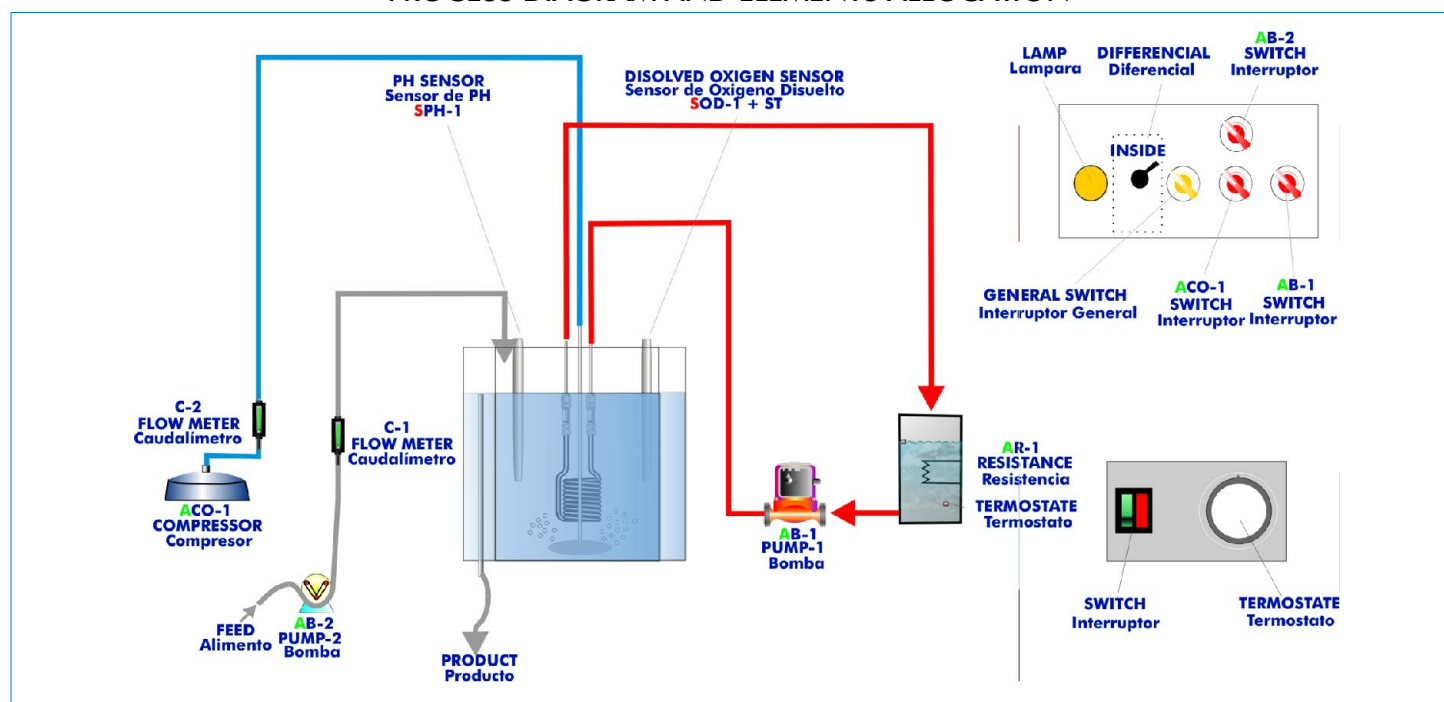
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Products  
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13.-Environment

### DESCRIPTION

The aim of this unit is to allow the study and the comprehension of the aerobic digestion processes. Such digestion is a biological process in which the partial oxidation of primary mud, active muds or a mixing of different types of mud take place, through the constant aeration.

### PROCESS DIAGRAM AND ELEMENTS ALLOCATION



Bench-top unit.

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.

20 litres reactor vessel with a tubular membrane inside.

Lid for the reactor with a manual valve and the respective holes.

pH meter.

Electrode for the measurement of the dissolved oxygen (dissolved oxygen meter) and temperature meter.

Thermostatic bath (until 60°C).

Pump for water circulation of the thermostatic bath.

Heating or cooling coil, (temperature regulation coil).

Peristaltic pump (4-50 cc/min.).

Water flow meter (4-50cc/min.).

Air compressor (0-5 l./min.).

Diffusing sheet for the air inlet.

Air flow meter (0.4-5 l./min.).

Membrane, muds separation.

Overflow for the outlet of filtered water.

Valve on the bottom for mud extraction.

Console:

Metallic box.

Switch for pump 1.

Switch for pump 2.

Switch for air compressor.

Lamp.

Differential switch (inside).

Main switch.

Cables and Accesories, for normal operation.

Manuals:

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

## EXERCISES AND PRACTICAL POSSIBILITIES

### Some Practical Possibilities of the Unit:

- |   |  |
|---|--|
| 1.- Gas/liquid mass transfer.                                       | 10. Study of the nutrients effect on the effluent quality.     |
| 2.- Measurement of MLSS and COD changes as criteria of performance. | 11. Study of the recirculation effect on the effluent quality. |
| 3.- Residence time distributions.                                   | 12.- Establishing the stoichiometry of aerobic processes.      |
| 4.- Acclimation of biological samples.                              | 13.- Establishing the Kinetics of aerobic processes.           |
| 5.- Study of the temperature effect on the effluent quality.        |  |
| 6.- Study of the detention time effect on the effluent quality.     |  |
| 7.- Study of the aeration effect on the effluent quality.           |  |
| 8.- Study of the pH influence on the effluent quality.              |  |
| 9. Study of the mass load effect on the effluent quality.           |  |

## REQUIRED SERVICES

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

## DIMENSIONS & WEIGHTS

-Dimensions: 800 x 600 x 700 mm. approx.

-Weight : 55 Kg. approx.

## RECOMMENDED ACCESSORIES

-Feed and product tanks (approx. 40 litres). (Not included with the unit).

## AVAILABLE VERSIONS

Offered in this catalogue:

- PDA. **Aerobic Digester.**

Offered in other catalogue:

- PDAC. Computer Controlled **Aerobic Digester.**

\* 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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