Fixed and Fluidised Bed Unit

LFF

Technical Teaching Equipment

www.edibon.com
Products
Products range
Units
11.-Chemical Engineering

GENERAL DESCRIPTION

Unit for the study of fixed and fluidised beds of solid particles.

"LFF" unit allows a full study about everything concerning the flow of a fluid through a bed, both packed and fluidised. The unit allows the simultaneous study of the water and air flow through the bed.

The unit is made up of 2 transparent dismantled columns for the simultaneous study of the air and water flow through the bed. Each one of the columns is connected to a pressure meter (manometer) that indicates the charge loss caused by the bed.

Water is pumped from the tank, located on the back part of the unit, to the bottom part of the first column, going through a flow control valve and through a flowmeter.

Air is supplied to the second column through a compressor located on the back part of the unit.

Glass pearls of 2 different sizes for the bed are supplied.

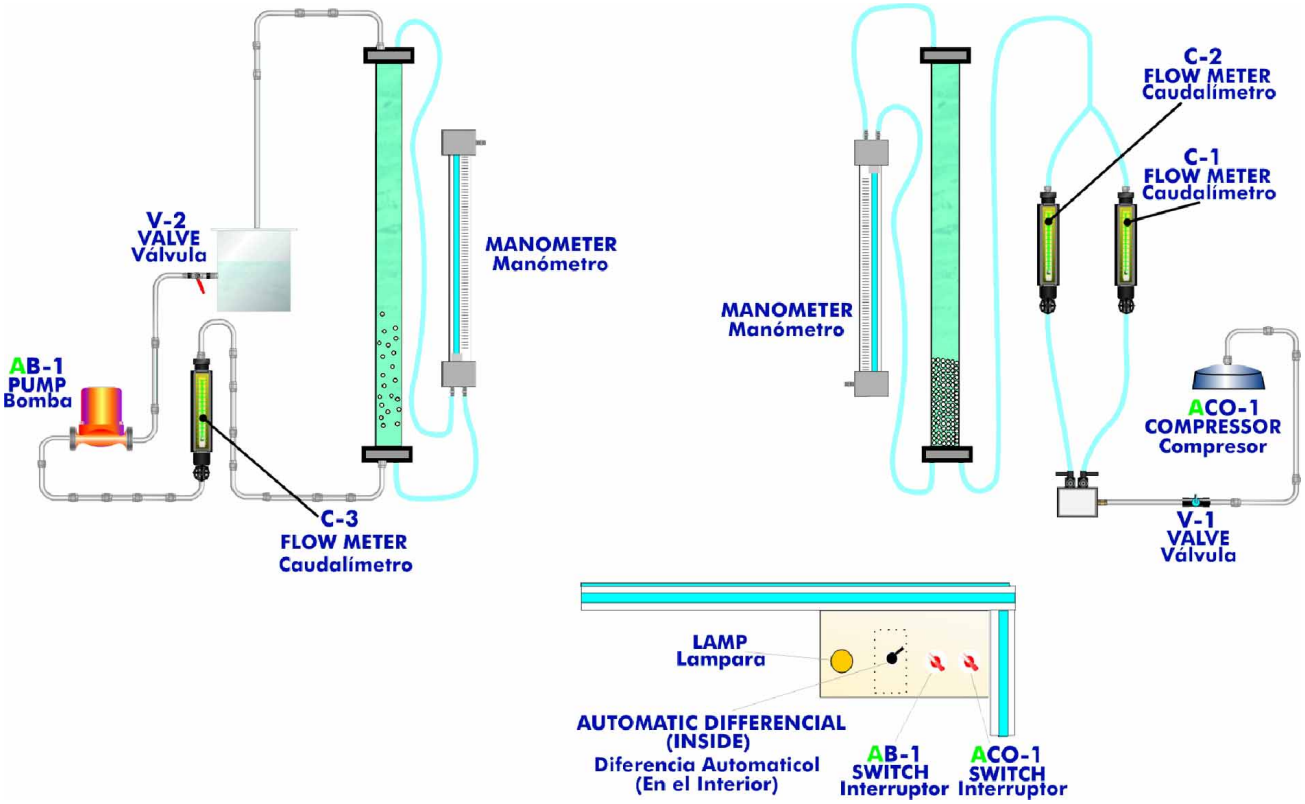
ISO 9000: Quality Management
(for Design, Manufacturing, Commercialization and After-sales service)

European Union Certificate
(total safety)

Certificates ISO 14000 and **ECO-Management and Audit Scheme**
(environmental management)

Worlddidac Quality Charter Certificate
(Worlddidac Member)

PROCESS DIAGRAM AND UNIT ELEMENTS ALLOCATION



SPECIFICATIONS

Bench top unit for the study of fixed and fluidised beds of solid particles.

"LFF" unit allows a full study about everything concerning the flow of a fluid through a bed, both packed and fluidised. The unit allows the simultaneous study of the water and air flow through the bed.

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.

2 Transparent cylindrical columns, one for air and one for water. Each column diameter: 50 mm and height 550 mm, with bed plates.

Two sizes of bed material (glass pearls) are supplied, 170/300 and 250/420 micron ranges.

The columns are demountable in order to remove the particle bed.

Water tank of 10 l. capacity.

Water pump.

Compressor.

Water regulation valve and water flow meter, range: 0-2 l./min.

2 Air regulation valves and 2 air flow meters, ranges: 4-22 l./min. and 1-8 l./min.

2 Pressure meters (manometers).

Electrical panel:

- Lamp.
- Automatic differential.
- Compressor switch.
- 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.

EXERCISES AND PRACTICAL POSSIBILITIES

Some Practical Possibilities of the Unit:

1.- Verification of Carman-Kozeny's equation.

2.- Pressure drop through packed and fluidised beds, for air and water systems.

3.- Onset of fluidisation.

4.- Study of differences between particulate and aggregative fluidisation.

5.- Simultaneous study of air and water systems and observation of phenomenon of "bubbling".

6.- Study of the pressure drop in packed and fluidised cakes (Liquid: water and fine cake particle).

7.- Study of the pressure drop in packed and fluidised cakes. (Liquid: water and thick cake particle).

8.- Study of the pressure drop in packed and fluidised cakes (Fluid: air and fine cake particle).

9.- Study of the pressure drop in packed and fluidised cakes (Fluid: air and thick cake particle).

REQUIRED SERVICES

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

-Water supply.

DIMENSIONS & WEIGHT

-Dimensions: 700 x 570 x 870 mm. approx.

-Weight: 50 Kg. approx.

AVAILABLE VERSIONS

Offered in this catalogue:

- LFF. Fixed and Fluidised Bed Unit.

Offered in other catalogue:

- LFFC. Computer Controlled Fixed and Fluidised Bed Unit.

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

edibon INTERNATIONAL

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**

Issue: ED01/12
Date: January/2012

REPRESENTATIVE: