Electronic Console

DESCRIPTION

Bench mounted spray drier for processing aqueous emulsions, solutions, suspensions and colloidal solutions.
This spray drier is appropiate to form part of the development/evaluation process of:
Drinks beverages, fish extracts, materials sensitive to high temperatures, milk and egg dirivatives, vegetal extracts, etc.
A peristaltic pump delivers the liquid sample from a container through a small diameter jet into the main chamber.
At the same time compressed air enters the outer tube of the jet which causes the liquid to emerge as a fine atomised spray into the drying chamber. Heated air is blown through the main chamber evaporating the liquid content of the atomised spray. The solid particles of the material are collected in the sample collection bottle.
The exhaust airflow is directed to atmosphere or to an extraction system existing in the laboratory.

SPECIFICATIONS

Bench mounted spray drier. Drier fully made with glass.
Diagram in the front panel with similar distribution to the elements in the real unit.
Downward co-current operation (a fine jet of the product is brought into contact with a hot air stream).
Glass main chamber.
Glass separator cyclone.
Sample collection glass bottle.
Waste collection glass tube.
Exhaust tube.
Standard jet of 0.5 mm Ø. It incorporates a de-blocking device.
Peristaltic pump, with variable speed. Product flow rate: 0 to 1800 ml/h. approx.
Heater of 3 kW.
Air inlet temperature: maximum 200°C.
Fan (0.4 kW; 3000 r.p.m.). Drying air flow: 70 m^3/h. (fixed) approx.
4 Temperature sensors, "J" type, for measurement of:
- **Environmental temperature.**
- **Air inlet temperature.**
- **Exhaust vapour temperature.**
- **Sampling temperature.**

2 Humidity sensors (air inlet and air outlet).
Pressure meter (manometer) for compressed air.
Electronic Console:
- **Metallic box.**
- **Temperature sensors connections.**
- **Digital display for temperature sensors.**
- **Selector for the temperature sensors.**
- **Fan switch.**
- **Pump speed regulator.**
- **Heater controller.**
- **Humidity controller.**

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

EXERCISES AND PRACTICAL POSSIBILITIES

Some Practical Possibilities of the Unit:

1.- Operation principle of a spray drier.
2.- Effect of the drop size on the drying process.
3.- Effect of the input temperature on the drying process.
4.- Effect of the feed flow of the product on the drying process.
5.- Mass balance of a spray drier.
6.- Energy balance of a spray drier.
7.- Spray drier efficiency.

REQUIRED SERVICES

- Electrical supply: single-phase, 220V./50Hz. or 110V./60Hz.
- Compressed air supply (approx. 45 l/h at 8 bar).

DIMENSIONS & WEIGHTS

SSPB:

Unit:	-Dimensions: 500 x 500 x 1500 mm. approx.
	-Weight: 80 Kg. approx.
Electronic console:	-Dimensions: 490 x 330 x 310 mm. approx.
	-Weight: 10 Kg. approx.

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

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REPRESENTATIVE: