



The objective of the IQ 01.5 equipment is to analyze the drying by convection of the element to be studied, modifying the environment in which it is and reflect the data of the changes produced.

This process is widely used in the food industry, and can be viewed and studied very easily. By means of the control knobs, the air velocity and the heating power can be varied, so that we can study the phenomenon of drying in different operating regimes.

The transparent register allows to visualize the solid to be dried during the process, while a precision electronic balance indicates the produced mass variation.

The temperature, humidity and air velocity sensors indicate the parameters of the process, which allows the student to perform different practices.

The complete practical manual, shows the practices to be developed by the students, along with the data log tables, on which the student will work with the data obtained in the practice. The practical notebook is delivered with a version of the teacher, which shows the data of the practices already resolved.

LEARNING OBEJCTIVES

- Study of the drying of solids in different conditions of:
 - Air temperature
 - Air speed
 - Properties of the solid to study
- Register of drying curves with different external conditions.
- Study of drying processes using energy and mass balances.
- Determination of drying speed under different conditions of:
 - Air temperature
 - Air speed
 - Properties of the solid to study

TECHNICAL DATA**FAN (TD 800/200)**

- Speed 2000-2500 rpm
- Power absorbed (máx.) 100-120 W
- Duct diameter Ø200
- Maximum flow 800-1100 m³/h

RESISTANCES

- Resistance of nickel-chromium wire, with a total power of 4 kW, mounted in three stages in parallel, at 230 V, being each unit power of 1.34 kW.

TEMPERATURE SENSORS, *electronic thermometer*

- Sensor PTC2000, range: -40 at +140 °C
- Resolution 0,1°C
- Input 230V 50/60 Hz

SPEED SENSORS

- Measurement range 0-15 m/s
- Input 24V 50/60 Hz
- Work temperature -10 at 45 °C
- Maximum speed 20 m/s

HUMIDITY SENSORS

- Measurement range:
 - Temperature 0-100°C
 - Humidity 20-98% HR
- Input 24V 50/60 Hz
- Work temperature -5 at 45 °C

DUCT

- Galvanized steel, thermal isolation and aluminum termination
- Constant section 300x300 mm

BALANCE

- Weighing range 10Kg
- Resolution: 0,1gr
- Service temperature 5-35 °C
- Input 220V-240V AC, 50 Hz

DIMENSIONS

- 2170x1500x770 mm

REQUIREMENTS

- *Input: 230V/50Hz.*