



MULTIFUNCTIONAL BENCH



DL LAB30

Introduction

Technological advances in the field of food provide consumers with a wide variety of product possibilities, not only due to their nutritional value, but also due to their presentation, organoleptic properties and nature of the ingredients. New technologies play an important role in the field of food as they allow the production of food and beverages that meet consumer demands in a safe manner.

For this reason, food technology is important, since it provides the necessary operational and scientific knowledge to project, direct, coordinate, install and control the production processes in the industry, manage quality in these units, participate in the development of new formulations food and conservation methods.

Food technology is a multidisciplinary science that uses chemistry, biochemistry, physics, process engineering and industrial management. Food scientists and technicians are responsible for ensuring that food is healthy, nutritious and has the quality demanded by consumers.

The Food Processing technology trains the student on the transformation and conservation of raw materials to satisfy the food needs of the consumer, guaranteeing a transformation of the agricultural food in the quality and safety of the finished product. Food Processing means any method used to transform fresh food into food products. In said transformation, one or several of the following techniques may be involved: washing, cutting, pasteurizing, freezing, fermenting and packaging, among many others.



To respond to the growing demand for qualified technicians and personnel in the food technology sector, technical institutes and universities must expand their educational offer by equipping the relevant laboratories with suitable machines and equipment.

De Lorenzo has developed a MULTIFUNCTIONAL BENCH. The compact size of this machine and its user-friendly display help students to easily understand and reproduce a production cycle. In particular, with this machine it is possible to produce:

- Jams,
- Jellies,
- Ketchup,
- Juices,
- Other food products,
- Heat treatment of the packaged products,
- Cooking and concentration operations.

GENERAL DESCRIPTION

Multi-functional cooking unit with a total volume of about 30 litres and operating volume of 20 litres, suitable for the preparation of small amounts (15-20 kg) of marmalades, jam, ketchup, juices and other alimentary products.

The unit is composed of a multi-functional unit for cooking/concentration (in the atmosphere or vacuum-packed) and for heat treatment (pasteurization/sterilization and the consequential cooling) of the packaged product.

The possibility of performing the cooking and concentration operations even vacuum-packed, as in installations of large-scale, allows reaching high qualitative levels of the finished product, by maintaining the levels of contained vitamins high and the colours brighter.

PROCESS DESCRIPTION

The 30 litres cooking unit is equipped with a hollow space in which there is a thermal fluid heated by means of a group of electrical resistors. In this cooking unit, the cooking, frying and concentration operations are carried out and the product is kept in constant movement by an agitator that scrapes the walls to avoid the product drops from burning in contact with the warm wall.

Once the operation is finished, by means of the opening of a manual valve the product is discharged outside where, with the help of a dosing device (not included with the bench), is poured in the containers.

These same containers can be pasteurized/sterilized even at a temperature over 100°C in the same multi-functional unit; at the end of the pasteurization operation, the same containers are cooled quickly and safely.

A small PLC, together with a series of sensors that control the pressure and the temperature, oversees all the operational phases and allows programming the process of pasteurization and cooling automatically.



Main features of the machine:

- A connection to electricity is needed for its operation (three-phase from the mains)
- Water supply 250 l/h - 3 bar

Technical characteristics of the machine:

Nominal Capacity:	30 litres
Minimum work capacity:	20 litres
Power:	10 kW
Dimensions:	Width: 1050 mm, Height: 940 mm, Depth: 950 mm

Recommendations:

- The DL LAB30 machine needs to be connected to the electrical network for its operation.
- It is recommended to have water supply and water discharge (high-temperature discharge 1" ¼ connection).
- The DL LAB30 machine requires a 200 l/h - 7 bar compressor

Accessories

Vegetable sorting table

Suitable for raw food preparation.



Vegetable pulping machine

Machine that allows the elimination of particles such as seeds, peels, waste and other unwanted products in obtaining pulp for juices, drinks, compotes or purées.



2 Trolleys

Transport trolleys with wheels to facilitate the transfer of food for preparation.





2 Cutting boards

To provide a flat and stable surface on which to cut safely, in addition to protecting the table and extending the life of the blades of our kitchen knives.



Knife set

Used to peel and cut fruit or vegetables at the table.



Vegetable strip cutter

To have a finer cut of vegetables.



Vegetable peeler

A kitchen utensil designed to peel, finely, the skin of vegetables and fruits and make good use of their pulp.



Aprons, gloves (for cutting and temperature protection), protective footwear

To be worn or held by the worker to protect him from one or more risks at work.



Solutions to wash and disinfect the machine at the end of the job.

The types of disinfectants most used in the food industry with high performance against different types of microorganisms.





FOOD TECHNOLOGY



Graduated jugs (1 l – 3 l)

To measure hot or cold liquids.



Weight scales 0-30 kg

To determine the weight of the raw material, characterized by high accuracy, precision and sensitivity.



Refractometer

To quantify the total of solids contained in a solution.



PH meter

To determine the degree of acidity or alkalinity.

