



Non contractual photo

**SERVICE :**

## REFERENCE : MP302S

Study of the drying of food products, or food compatible, within the framework of teaching or research studies.  
Examples: pieces of beets, bananas, yeast, dog food, corn kernels, puffed rice, frozen peas ...

### GENERAL DESCRIPTION OF THE PILOT

A circuit comprising 3 drying modules :

- Fluidized bed dryer : Diameter 200 mm, load 500g.
- Dryer with lateral air flow : the air passes at reduced speed over the product spread over three trays of 0.1 m<sup>2</sup>.
- The airflow can be in open closed loop. With the possibility to admit outside air according to the RH of the airflow. This input is set manually or regulated (option).

### Technical specifications :

#### Aeraulic circuit :

#### HORIZONTAL MODULE IN LECHAGE

304 stainless steel casing with opening on the front.  
Inside 3 racks in stainless steel grid. These racks are maintained on a perforated structure. The set rests on the scale plate  
The scale is on the outside of the box so as not to subject it to high temperatures  
An eyecup on the door for measuring the temperature of the product with a pyrometer.  
Deflection of the airflow during the " Weighing " mode.

#### FLUIDIZED BED MODULE

A 304 stainless steel product tank with interchangeable sieves (two sieves are provided, mesh to be defined) and a polycarbonate expansion zone allows good visualization of product movements.  
Diameter of the fluidized bed 200 mm  
A sampling consisting of a tapping allows the sampling of samples during the process for moisture analysis.  
Mechanical locking of the product tank  
A recovery hatch is located at the base of the fluidized bed.

#### CONNECTING DUCTS :

Air ducts in thermo lacquered steel with colored food paint to be defined in a panel. The duct sections and the modules of drying are interconnected by clamp type collars with high temperature seals. They are easily removable for cleaning.  
Option: stainless steel air ducts.

**AIR HEATER :** Two modules of 15 Kw

**FAN** : Centrifugal direct drive. Variable flow per drive

**Option** : Flow rates below 180 m<sup>3</sup> / h can be achieved by manual and progressive closing of a discharge damper.

Filtering on the outside air intake: an air filter whose filter element can be dismantled and cleaned.

**Option** : Soundproofing of the carcass by rockwool thickness: 1000 mm + aluminum sheet for attenuation of the carcass noise of 7 to 8 DBA.

### **Electric box**

**?Waterproof IP55 enclosure including :**

- Touchscreen
- On / Off button
- Emergency stop button
- Fuse and circuit breaker assembly
- Variator for adjusting the fan speed,
- Regulator of air temperature after heater.
- Sensor transmitter temperature humidity, temperature, differential pressure
- Safety: air temperature limit.

### **Instrumentation :**

A PT100 temperature probe just above the bowl of the fluidized bed.  
3 HR / Temperature probes.

A differential pressure sensor on the other side of the bowl of the fluidized bed dryer.

Electronic scale:

Flow measurement: by a wing profile in the flow with differential pressure sensor

Acquisition and visualization on touch screen of about 7 ".

The data storage is possible in the screen memory, with recovery of these data on USB key.

Communication with a PC. The data can be viewed on a PC if it is equipped with PcVue or Autolink software (not supplied) and the application is developed