

This bench mounted unit is designed for the rapid assessment of processes involving aqueous emulsions, solutions, suspensions and colloids.



## Benefits

The spray dryer can be used for the following applications in the food industry:

- ▶ Beverages
- ▶ Heat sensitive materials
- ▶ Cereals
- ▶ Fish extracts
- ▶ Milk and egg products
- ▶ Plant and vegetable extracts

## Description

The all-glass construction and design of the spray assembly minimises any possible contamination and will produce a free-flowing, near-spherical powder. In the spray-drying process the product is introduced in liquid form and emerges as a dry, fine powder. Thermal shock is minimal.

The process may be used for powder coating (agglomeration) where the fine product is adhered together into small balls with the aid of filmogen.

Other processes where spray drying is found to be successful are micro-encapsulation and englobulation.

A fine jet of the liquid to be dried is brought into contact with a hot air stream. This evaporates the spray moisture and carries the solid particles into the cyclone separator. The solids are collected in a sample jar at the base of the cyclone and the exhaust vapour is directed to the outside atmosphere, or fume/dust extractor.

## Requirements

## Scale



### Electrical supply:

FT30-MkIII-A: 220-240V / 1ph / 50Hz

FT30-MkIII-B: 120V / 1ph / 60Hz

FT30-MkIII-G: 220-240V / 1ph / 60Hz

Compressed air: 27 l/min @ 3 bar

## Technical Details

The unit is supplied complete; ready for operation.

Materials of construction:

**Cabinet:** All steel, coated with hard chemical-resistant finish

**Dryer components:** Glass with gasket-free ground glass flanges

**Control panel includes:**

- Digital controller and display of inlet temperature
- Digital display of outlet temperature
- Rotary knob to control pump speed
- On/off switches for the blower, heater, and mains supply
- Pilot lights positioned in the panel indicate specific operations to be illustrated

**Product flow rate:** Variable up to 1,500 ml/hr

**Air inlet temp range:** Up to 200°C

**Heater capacity:** 3kW

**Jet size:** 0.5mm

## Ordering specification

- ▶ Bench mounted spray dryer for processing aqueous emulsions, solutions, suspensions and colloids
- ▶ Downward co-current operation (a fine jet of the liquid is brought into contact with a hot air stream)
- ▶ Incorporates manual jet de-blocking device
- ▶ Product flow rate: 0-1,500 ml/hr
- ▶ Air inlet temperature: 200°C max
- ▶ Heater capacity: 3kW
- ▶ Drying air throughflow: 70 m<sup>3</sup>/hr (fixed)

## Overall dimensions

Length	0.50m
Width	1.50m
Height	1.10m
<b>Packed and crated shipping specifications</b>	
Volume	1.20m <sup>3</sup>
Gross weight	190kg

## Knowledge base

- > 28 years' expertise in research & development technology
- > 50 years' providing engaging engineering teaching equipment

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## Aftercare

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Support: [armfieldassist.com](http://armfieldassist.com)