

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



Applications

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

- ▶ Beverages
- ▶ Flavours & Colourings
- ▶ Milk & Egg Products
- ▶ Plant & Vegetable Extracts
- ▶ Pharmaceuticals
- ▶ Heat Sensitive Materials
- ▶ Plastics
- ▶ Polymers and Resins
- ▶ Perfumes
- ▶ Ceramics & Advanced Materials
- ▶ Soaps & Detergents
- ▶ Dyestuffs
- ▶ Foodstuffs
- ▶ Adhesives
- ▶ Oxides
- ▶ Textiles
- ▶ Heat sensitive materials
- ▶ Fish 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



Overall dimensions

Length	0.50m
Width	0.50m
Height	1.20m
Weight	60kg
Packed and crated shipping specifications	
Volume	1.20m ³
Gross weight	190kg

Technical specifications

Drying capacity	Maximum approximately 1000ml/h
Product flow rate range	60 - 2000 ml/h
Spray air pressure range	0.2 -2 Bar
Jet size	0.5mm
Mass balance range	0-6kg
Heater	3kW
Blower	Fixed @ 70m ³ /hr
Maximum air pressure	70mbar
Feed pump volume range	60 ~ 2000ml/h

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

Technical details

The unit is supplied complete; ready for operation.

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

The unit is designed so that all functions are simple to select and adjust, this ensures you quickly achieve the optimum conditions for spray drying.

A simple digital controller allows selection of the inlet temperature and a rotary knob controls the pump speed. Another digital display shows the outlet temperature.



Ordering codes

- ▶ FT30-MkIII-A
- ▶ FT30-MkIII-B
- ▶ FT30-MkIII-G

Armfield standard warranty applies with this product

Knowledge base

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

Benefit from our experience, just call or email to discuss your laboratory needs, latest project or application.

An ISO 9001:2015 Company



Products CE certified

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Aftercare

Installation
Commissioning
Training
Service and maintenance
Support: armfieldassist.com