

Laboratory Scale Spray Dryer

Spray drying can be used in a wide range of applications where the production of a free-flowing powder sample is required. This technique has successfully processed materials in the areas listed below, as well as many others:

- Beverages
- Flavours & colouring
- Milk & egg products
- Plant & vegetable extracts
- Pharmaceuticals
- Heat sensitive materials
- Plastics
- Polymers & resins
- Perfumes
- Ceramics & advanced materials
- Soaps & detergents
- Blood
- Dyestuffs
- Foodstuffs
- Adhesives
- Oxides
- Textiles
- Bones & tooth amalgam



Control

Using a clear LCD display, which is protected to IP65, the operator can control the following functions:

- Inlet temperature
- Airflow volume
- Pump speed
- De-blocker frequency

Construction

A robust chemically resistant 316 grade stainless steel cabinet houses all mechanical and electrical components necessary to perform the spray drying process. All clamps and fittings are designed to allow assembly and removal of the glass components in only a matter of seconds.

The rear of the cabinet includes an inlet filter designed to remove 99.9% of air laden particles ensuring that the drying air does not include contaminants.

A specially designed stainless steel support stand is available where bench space or height restrictions are a consideration.

Two Fluid Nozzle

The stainless steel spray assembly consists of an inner tube for the liquid sample leading to a small diameter jet. An outer tube directs the supply of compressed air to the nozzle and the close tolerance gap between the nozzle and the jet ensures a fine vaporised spray. The SD-06 is supplied as standard with 0.5mm jet and other sizes are available as accessories.

The spray assembly incorporates an automatic de-blocking device that prevents the jet nozzle from becoming blocked. The de-blocking needle is activated by an integral compressor.

De-blocking is sometimes necessary with materials which may solidify or when large particles in suspension cause blockages in the jet.

Technical Data

Evaporation rate of water at inlet temperature of 250° using Standard Chamber	Approximately 1500ml/hour
Air inlet temperature range	40° to 250° C
Drying air throughput	Variable from 100 to 300 m3/hr
Heater capacity	3 kW
Compressor	2.0 m3/hr @ 2.0 bar / 1.7 m3/hr @ 4.0 bar
Sample feed	Peristaltic pump with flow rate variable up to 32ml/min (2.0Lt/hr)
Jet de-blocking	Integral 2.3 bar compressed air supply with variable de-blocking plunger frequency
Spray system	2 fluid nozzle with standard 0.5mm jet and options of larger diameters
Spray/hot air flow	Downward co-current
Power supply	220/240 V - 50/60 Hz - 13 amps (others available)
Dimensions (H x W x D)-mm	1110 * x 825 x 600
Unit weight	Approx. 80kg

* without jet assembly

Product No 13900/01

Model No SD-06

Spray dryer SD-06 complete 220/240 V - 50/60 Hz (other power requirements available). Complete with all parts necessary for spray drying including blower, heater, heater control, exhaust temperature indicator, spray system with 0.5mm jet, spray atomiser compressor, auto jet de-blocking system with compressor, 215mm OD x 500mm long main chamber, cyclone and all glassware

