



Introducing the Labplant SD-06 & SS-07 Spray Dryers



The LabPlant SD-06 & SS-07 range of laboratory scale spray dryers are the result of 30 years continuous development, our units are self-contained and supplied complete and ready for immediate operation out of the box.

All major components are housed within a 316 stainless steel cabinet, which is designed to be used on a bench top or with the optional stainless steel stand.

We offer two versions of each unit, one aqueous only (A) the other aqueous and solvent (AG).

We fit an inert gas unit to the (AG) versions so they can be purged with nitrogen, to allow the spray drying of solvents.

All units feature a simple to use touch screen menu system



Technique

Our touchscreen controls allow the selection of inlet temperature, airflow, automatic de-blocker frequency and pump speed.

The self-priming peristaltic pump delivers the sample liquid from a container through a small diameter jet into the main chamber. At the same time an integral compressor pumps air into the outer tube of the jet which causes the liquid to emerge as a fine atomised spray into the drying chamber.



The Integrated fan, pumps heated air through the main chamber evaporating the liquid content of the atomised spray. The solid particles of the material, which are normally in a free flowing state, are then separated from the exhaust air flow by a cyclone and collected in the sample collection bottle. The exhaust airflow is directed through a flexible 50 mm diameter hose direct to atmosphere or to an existing extraction system.

Applications

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 following areas:

- Beverages • Flavours & Colourings
- Milk & Egg Products • Plant & Vegetable Extracts
- Pharmaceuticals • Heat Sensitive Materials
- Plastics • Polymers and Resins • Perfumes
- Ceramics & Advanced Materials
- Soaps & Detergents • Blood • Dyestuffs
- Foodstuffs • Adhesives • Oxides • Textiles
- Bones, Teeth & Tooth Amalgam and many others

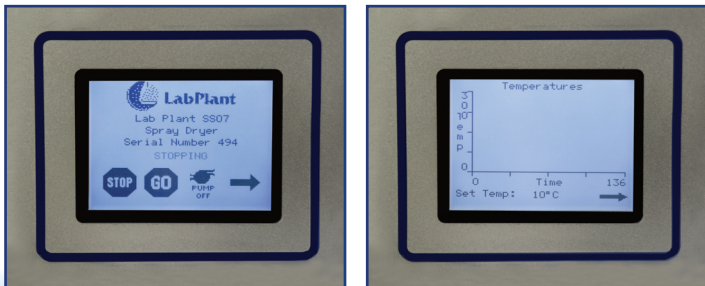


Most solutions and suspensions can be spray dried providing the resulting product has the characteristics of a solid material.

Controls & Functionality

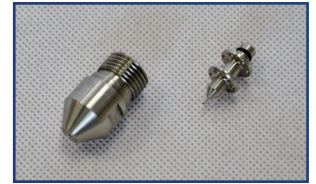
Both units are designed to ensure that all functions are simple to select and adjust, to quickly achieve the optimum conditions for spray drying. Both use a clear touch screen display which is protected to IP65, the operator can control the following functions:

- Inlet Temperature
- Airflow Volume
- Pump Speed
- De-blocker Frequency
- Temperature Graph



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. All units are supplied with 0.5mm jets, 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.

Construction

All units are made from a robust chemically resistant 316 grade stainless steel cabinet, this houses all the mechanical and electrical components. All clamps and fittings are designed to allow easy 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 99.99% 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.



SD-06 Specification

Application:	Aqueous & Solvent (AG) Aqueous only (A)
Atomiser type:	0.5mm, 2 Channel, 316 stainless steel
Evaporation rate:	1000 ~ 1500 ml/h
Temp. range:	50°C ~ 250°C ±1%
Air Throughput:	15 ~ 30m³/hr
Settings:	Touch Screen controlled
Compressor:	2m³/hr @ 2 bar - 1.7m³ @ 4 bar
Heater:	3kW
Feed pump:	Variable speed peristaltic pump
Glassware:	Borosilicate glass
Blower:	Variable; Touch Screen Controlled
De-blocking:	Automatic; 3 Speed settings
Noise (dB):	0.5mtr = 68.6 dB 1.0mtr = 66.8 dB
Dimensions:	1110 x 825 x 600mm
Weight:	80Kg
Power:	AC 220/240V 50/60Hz 13A

SS-07 Specification

Application:	Aqueous & Solvent (AG) Aqueous only (A)
Atomiser type:	0.5mm, 2 Channel, 316 stainless steel
Evaporation rate:	1500 ~ 2000 ml/h
Temp. range:	50°C ~ 250°C ±1%
Air Throughput:	15 ~ 50m³/hr
Settings:	Touch Screen controlled
Compressor:	2m³/hr @ 2 bar - 1.7m³ @ 4 bar
Heater:	4kW
Feed pump:	Variable speed peristaltic pump
Glassware:	Borosilicate glass
Blower:	Variable; Touch Screen Controlled
De-blocking:	Automatic; 3 Speed settings
Noise (dB):	0.5mtr = 68.6 dB 1.0mtr = 66.8 dB
Dimensions:	1210 x 825 x 600mm
Weight:	85Kg
Power:	AC 220/240V 50/60Hz 21A

Spares and Accessories

Labplant offer a number of different options to compliment and enhance the usage of our units. These range from custom size nozzles to a dual cyclone system for the collection of fine particles.



Filter units are available in standard, HEPA and toxic versions.



Replacement glassware and spares kits.



Wet scrubber unit is integrated in to the spray dryer during manufacture.



SD-06 fitted with dual cyclone system.

For further information, quotations or advice please contact us at:

Labplant UK, Unit 1b, Hunmanby Industrial Estate, Hunmanby, Nr Filey, North Yorkshire YO14 0PH
Tel: +44(0)1723 892262 Fax: +44(0)1723 890872 Email: sales@labplantuk.com www.labplantuk.com
Email: sales@laboratoryspraydryers.co.uk www.laboratoryspraydryers.co.uk

