product has the characteristics of a solid material.

processed materials in the following areas:

of a free-flowing powder sample is required. This technique has successfully

Spray drying can be used in a wide range of applications where the production

extraction system.

free flowing state, are then separated from the exhaust air flow by a cyclone

integral compressor pumps air into the outer tube of the jet which causes the

through a small diameter jet into the main chamber. At the same time an

The self-priming peristaltic pump delivers the sample liquid from a container

results.

software allows the control and monitoring of all functions and printing of

controller features an RS 232 output for connection to a PC or datalogger and

supply (Other Power Requirements Available) and provision for exhausting the

stand.

and the unit can be used on a bench top or with an optional stainless steel

continuous development in the field of laboratory scale spray drying systems.

The Lab-Plant SD-06 Laboratory Scale Spray Dryer is the result of 30 years of

TECHNIQUES

INTRODUCTION

T extiles • Bones, Teeth and Tooth Amalgam and many others.

Soaps and Detergents • Blood • Dyestuffs • Foodstuffs • Adhesives • Oxides •

Vegetable Extracts • Pharmaceuticals • Heat Sensitive Materials • Plastics •

Beverages • Flavours and Colourings • Milk and Egg Products • Plant and

CONSTRUCTION

The SD-06 only requires connection to a 13 amp, 220/240 V, 50 Hz power

CONSTRUCTION AND ACCESSORIES

SD-06 Main unit on stand.

quickly achieve the optimum conditions for

functions : using a clear LCD display, which is protected

spray drying.

END OF PROCESS

Temperature selection.

Start screen.

SD-06 Control panel screens.

TWO FLUID NOZZLE

almost all other methods of drying e.g. the

large particles in suspension cause blockages in the jet.

activated by an integral compressor.

prevents the jet nozzle from becoming blocked. The de-blocking needle is

The spray assembly incorporates an automatic de-blocking device that

compressed air to the nozzle and the close tolerance gap between the nozzle

sample leading to a small diameter jet. An outer tube directs the supply of

The stainless steel spray assembly consists of an inner tube for the liquid

and the jet ensures a fine vaporised spray. The SD-06 is supplied as standard

with 0.5 mm jet and other sizes are available as accessories.

blockage problems. An adjustable de-blocking needle can be activated

clamp is selected by pressing the appropriate key on the unit and is then

The stainless steel air line from the compressor to the jet is 5.5 m long in the

A specially designed stainless steel support stand is available where bench

laden particles ensuring that the drying air does not include contaminants.

process. All clamps and fittings are designed to allow assembly and removal of

A robust chemically resistant 316 grade stainless steel cabinet houses all

chamber, cyclone and all glassware.

0.5 mm jet, spray atomiser compressor, auto jet de-blocking system with compressor, 215 mm OD x 500 mm long

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

0.5 mm jet, spray atomizer compressor, auto jet de-blocking system with compressor, 215 mm OD x 500 mm long

main chamber, cyclone and all glassware.

ORDERING INFORMATION

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

0.5 mm jet, spray atomizer compressor, auto jet de-blocking system with compressor, 215 mm OD x 500 mm long

main chamber, cyclone and all glassware.

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Design & production by

Irisville 0416 787851
The Spray Drying process usually produces a free flowing powder sample of a spherical nature and can produce very fast results from a small liquid sample.

ADVANTAGES
Almost all other methods of drying e.g. the use of Ovens, Freeze Dryers or Rotary Evaporators produce a soft mass of material often described as a cake. This cake then requires further processing (grinding, filtering etc.) and the resulting material is often of very irregular particle size and shape.

The Spray Drying process usually produces a free flowing powder sample of a spherical nature and can produce very fast results from a small liquid sample.

INTRODUCTION
The Lab-Plant SD-06 Laboratory Scale Spray Dryer is the result of 30 years of continuous development in the field of laboratory scale spray drying systems.

The unit is self contained and supplied complete and ready for immediate operation. All major components are housed within a stainless steel cabinet and the unit can be used on a bench top or with an optional stainless steel support stand.

The SD-06 only requires connection to a 13 amp, 220/240 V, 50 Hz power supply (Other Power Requirements Available) and provision for extracting the evaporated moisture to atmosphere or to an existing extraction system.

TECHNIQUE
A menu driven microprocessor controller allows the selection of inlet temperature, air flow, automatic de-blocking frequency and pump speed. The controller features an RS 232 output for connection to a PC or datalogger and software allows the control and monitoring of all functions and printing of results.

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.

Heated air is blown 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 air 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 and Colours
- Milk and Egg Products
- Plant and Vegetable Extracts
- Pharmaceuticals
- Heat Sensitive Materials
- Plastic
- Polymers and Resins
- Perfumery
- Cosmetics and Personal Care Materials
- Sprays and Deodorants
- Blood
- Dyes
- Foodstuffs
- Adhesives
- Dyes
- Textiles
- Bases, Teeth and Tooth-Arming materials and many others.

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

ADVANTAGES
- Almost all other methods of drying e.g. the use of Ovens, Freeze Dryers or Rotary Evaporators produce a soft mass of material often described as a cake. This cake then requires further processing (grinding, filtering etc.) and the resulting material is often of very irregular particle size and shape.

The Spray Drying process usually produces a free flowing powder sample of a spherical nature and can produce very fast results from a small liquid sample.

CONTROLS AND FUNCTIONALITY
The unit is designed to ensure that all functions are simple to select and adjust, to quickly achieve the optimum conditions for Spray Drying.

Using a clear LED display, which is protected to IP65, the operator can control the following functions:
- Inlet temperature
- Airflow volume
- Pump speed
- De-blocker frequency

SD-06 Control panel screens.

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 borne 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.

TECHNICAL INFORMATION

- 2 fluid nozzle with standard 0.5 mm jet and other sizes are available as accessories.
- Integral 2.3 bar compressed air supply with activated by an integral compressor.
- Spray atomiser compressor, auto jet de-blocking system with compressor, 215 mm OD x 500 mm long spray dryer.
- SD-06 Glassware.

- Spray dryers are supplied complete.
- Optional stainless steel support stand.
- Optional stainless steel support stand.
- Important to note that all standard glassware is supplied.
- Important to note that all standard glassware is supplied.

TECHNICAL INFORMATION

<table>
<thead>
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<th>Feature</th>
<th>Specification</th>
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| Spray Dryer                  | SD-06 220/240 V 50 Hz (Other Power Requirements Available) Complete with all parts necessary for spray drying including blower, heater, heater control, exhaust temperature indicator, spray system with spray atomiser compressor, auto jet de-blocking system with compressor, 215 mm OD x 500 mm long spray dryer.
| Glassware                     | SD-06 Glassware.             |
| Important to note that all standard glassware is supplied. |                              |
| Spray dryer                   | SD-06 220/240 V 50 Hz (Other Power Requirements Available) Complete with all parts necessary for spray drying including blower, heater, heater control, exhaust temperature indicator, spray system with spray atomiser compressor, auto jet de-blocking system with compressor, 215 mm OD x 500 mm long spray dryer.
| Glassware                     | SD-06 Glassware.             |
| Important to note that all standard glassware is supplied. |                              |
| Spray dryer                   | SD-06 220/240 V 50 Hz (Other Power Requirements Available) Complete with all parts necessary for spray drying including blower, heater, heater control, exhaust temperature indicator, spray system with spray atomiser compressor, auto jet de-blocking system with compressor, 215 mm OD x 500 mm long spray dryer.
| Glassware                     | SD-06 Glassware.             |
| Important to note that all standard glassware is supplied. |                              |

**Note:** The information given is subject to change without prior notice.
Most solutions and suspensions can be spray dried providing that the resulting processed materials in the following areas:

- Textiles
- Bones, Teeth and Tooth Amalgam
- Soaps and Detergents
- Blood
- Dyestuffs
- Foodstuffs
- Adhesives
- Oxides
- Vegetable Extracts
- Pharmaceuticals
- Heat Sensitive Materials
- Plastics
- Oxides
- Metals
- Water

The Spray drying process usually produces a free flowing powdery sample of a spherical nature and can produce very fast results from a small liquid sample.

SD-06 Laboratory Scale Spray Dryer

TECHNIQUE

A menu driven microprocessor controller allows the selection of inlet temperature, airflow, automatic de-blocking frequency and pump speed. The controller features an RS 232 output for connection to a PC or datalogger and software allows the control and monitoring of all functions and printing of results.

The self priming periodic 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.

Heated air is blown 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 air is directed to 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.

ADVANTAGES

Almost all other methods of drying e.g. the use of Ovens, Freeze Dryers or Rotary Evaporators produce a soft mass of material often-described as a cake. This cake then requires further processing (grinding, filtering etc.) and the resulting material is often of very irregular particle size and shape.

The Spray Drying process usually produces a free flowing powder sample of a spherical nature and can produce very fast results from a small liquid sample.

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 flanges 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 99.95% of all dust particles ensuring that the drying air does not include contaminants.

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
- Flavourings and Colourings
- Milk and Egg Products
- Plant and Vegetable Extracts
- Pharmaceuticals
- Heat Sensitive Materials
- Plastics
- Polymers and Resins
- Perfumes
- Cosmetics and Aromas
- Soaps and Detergents
- Blood
- Eyewashes
- Footoods
- Adhesives
- Oxides
- Metals
- Water

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

TECHNICAL INFORMATION

- Diameter of Test Tube: 215 mm OD x 500 mm long
- Spray Atomizer Gas Volume: 1500 ml/hour
- Atomizer Gas Pressure: 40ºC to 250ºC
- Airflow: Approximately 1500 ml/hour
- Pump Speed: Variable from 100 to 300 ml/min (2.0 l/hr)
- Compressor: Integral 2.3 bar compressed air supply with variable de-blocking plunger frequency
- Heater: 32 ml/min (2.0 l/Hr)
- Peristaltic pump with flow rate variable up to 40ºC to 250ºC
- Tank Capacity: 1500 ml/hour
- Drying Gas Throughput: Approximately 1500 ml/hour
- Exhaust Air Throughput: Approximately 1500 ml/hour
- Variable de-blocking plunger frequency
- Integral 2.3 bar compressed air supply with variable de-blocking plunger frequency
- Heater: 32 ml/min (2.0 l/Hr)

ORDERING INFORMATION

- SD-06 Glassware
- 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 0.5 mm jet, spray atomiser compressor, auto jet de-blocking system with compressor, 215 mm OD x 500 mm long Spray Dryer SD-06 complete 220/240 V - 50/60 Hz (Other Power Requirements Available)

Design & production by
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 produced a free-flowing state, which is often described as a cake. This cake then requires further processing (grinding, filtering etc.) and the resulting material is often of very irregular particle size and shape. Most solutions and suspensions can be spray dried providing that the resulting processed materials are not too sticky or too pasty and can be easily flowing through a flexible 50 mm diameter hose direct to atmosphere or to an existing supply (Other Power Requirements Available) and provision for exhausting the evaporated moisture to atmosphere or to an existing extraction system.

The SD-06 only requires connection to a 13 amp, 220/240 V, 50 Hz power supply. It is self contained and supplied complete and ready for immediate use of Ovens, Freeze Dryers or Rotary evaporators.

The unit is designed to ensure that all parts necessary for spray drying including blower, heater, heater control, exhaust temperature indicator, spray system with variable de-blocking plunger frequency and pump speed. The unit is supplied 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 0.5 mm jet, spray atomiser compressor, auto jet de-blocking system with compressor, 215 mm OD x 500 mm long main chamber, cyclone and all glassware.

ORDERING INFORMATION
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 0.5 mm jet, spray atomiser compressor, auto jet de-blocking system with compressor, 215 mm OD x 500 mm long main chamber, cyclone and all glassware.