Spray dryer for pilot plant "Spray Dryer SD-Basic" and "Spray Dryer SD-06"

APPLICATIONS

Food and beverage industry (fish meal, golden beer, cod roe, formaldehyde, molasses, powdered milk, garlic powder, instant coffee), flavors and colorants, plant extracts, pharmaceutical industry, perfumes, cosmetics, polymers and resins, ceramics and advanced materials, soaps and detergents, adhesives, and many others..

COMMON FEATURES

Achieves excellent results in tests where a powder product is required to be produced from aqueous solutions, emulsions, suspensions, and colloids.
It is suitable for micro-encapsulation, where the liquid is mixed with a protective film. The resulting atomization from the spray forms hollow globules of approximately 10 - 20 mm in diameter, in which the product is encapsulated.
This method is primarily used for samples sensitive to moisture, the environment, contact with other elements, evaporation, or oxidation.
It eliminates the time and drying issues associated with the use of rotary evaporators, ovens, freeze dryers, etc.

SPECIFICATIONS "SPRAY DRYER SD-BASIC

It is equipped with a peristaltic pump that draws the liquid sample and directs it to the main chamber through a small-diameter injector.
A stream of pressurized air generated by an external compressor* is directed to the injector's exit point, causing the liquid to emerge, which results in the atomization of the sample inside the main chamber. At the same time, a stream of hot air in the chamber evaporates the liquid, leaving the solid particles deposited in the collection container.
The remaining airflow will be freely expelled outside or to an existing vapor extraction system.

SPECIFICATIONS "SPRAY DRYER SD-06"

Manufactured in chemical-resistant stainless steel, housing all mechanical and electrical components, including the air compressor. All clamps and fittings are designed to allow easy assembly and removal of glass components in just a few seconds.
Touch control allows the selection of inlet temperature, air flow, automatic unlocking frequency, and pump speed.
A peristaltic pump delivers the liquid sample from a container to the main chamber through a small-diameter nozzle. At the same time, an integral compressor pumps air into the outer tube of the nozzle, causing the liquid to emerge as a fine spray into the drying chamber.
The integrated fan pumps hot air through the main chamber, evaporating the liquid content of the atomized spray. The solid particles of the material, which are usually in a free-flowing state, are separated from the outgoing air stream by a cyclone and collected in the sample collection bottle. The outgoing air flow is directed through a flexible hose with a 50 mm diameter, either directly to the atmosphere or to an existing extraction system.
The rear of the cabinet includes an inlet filter designed to remove 99.99% of air-borne particles, ensuring that the drying air is free of contaminants.
To work with organic solvents, it is equipped with a connection for inert gas input (e.g., nitrogen) and a lockout system to prevent the entry of outside air.
A stainless steel stand is available, taking into account space or bench height restrictions and for use with a double cyclone or long chamber.
Supplied complete with a standard 0.5 mm Ø injector (other diameters of 1 and 2 mm Ø are available).



Model SD-BASIC



Model SD-06

MODEL	Spray Dryer SD-Basic	Spray Dryer SD-06
Code	5000002	5000005
Maximum evaporation capacity approx.	1.0 l/hour H_2O	1.5 l/hour H_2O
Maximum circulating air temperature	200 °C	250 °C
Drying air flow	70 m^3/hour	15 - 30 m^3/hour
Compressor	(*Accessory sold separately) 44 l/min. a 8 bar	2m^3/hr @2 bar-1.7m^3 @3 bar
Sample absorption flow rate	from 0.1 until 1.5 l/hour	from 0.3 until 2.1 l/hour
Particle size	1-30 microns	1-30 microns
Heating Power	3000 W	3000 W
Weight	60 Kg	80 Kg
Dimensions height x width x depth in cm.	110 x 50 x 50	111 x 82,5 x 60

ACCESSORIES

Inyector 0,7 mm. Code 5000007 **Inyector 1 mm.** Code 5000009 **Inyector 1,5 mm.** Code 5000010
Inyector 2 mm. Code 5000013 **Support Inox.** Code 5000014 **Compresor*.** Code 5000003