

Spray Dryer



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About us

Innova Bio-Meditech is one of the professional solution provider of laboratory and medical devices. Firmly committed to our mission of "sharing innovative bio-meditech solutions with the world", we are dedicated to innovation in the fields of Biology Project, Life Science, Pharmacy Industry and Medical Treatment.

Innova Bio-Meditech possesses a sound distribution and service network with business partners in North and Latin America, Europe, Africa and Asia-Pacific etc. We have built up a well established R&D, manufacture network with 3 centers in Qingdao, Shanghai and Suzhou. Inspired by the needs of our customers, we adopt advanced technologies and transform them into accessible innovation. This means constant effort and research, in order to more fully understand the developments of the market, INNOVA produce constantly upgraded product ranges by adding new products year after year.

The passion for science

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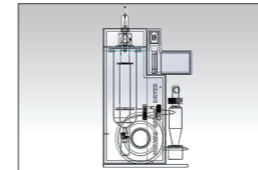
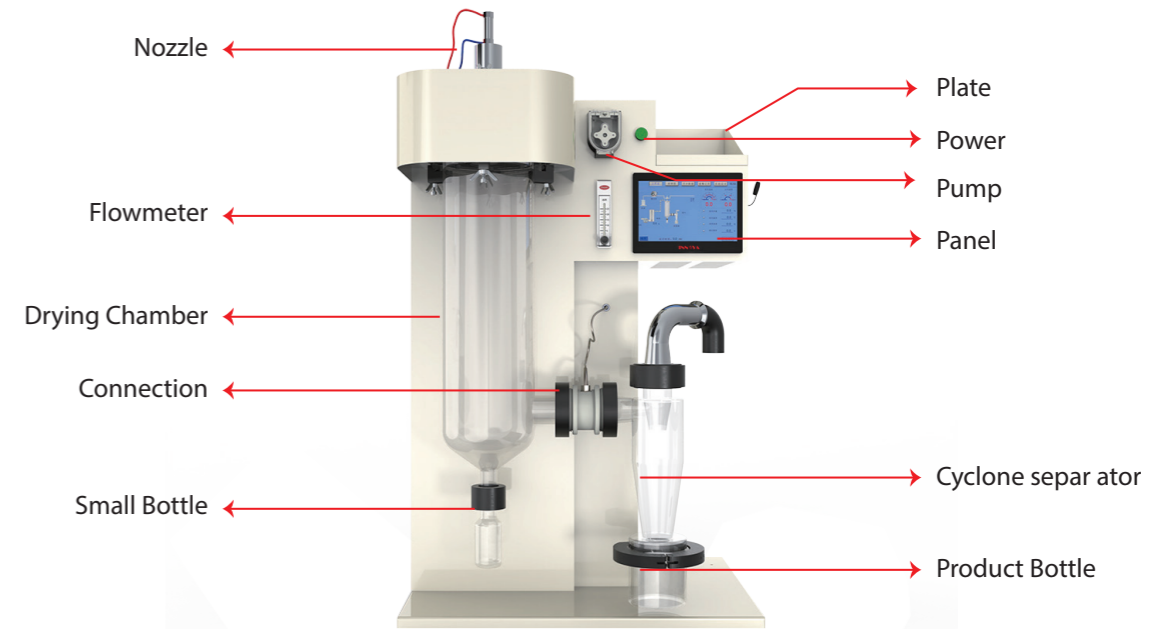
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Lab Spray Dryer

INNOVA Lab Spray Dryer (ISD-2) is mainly used in universities, research institutes and laboratories of food, medicine and chemical enterprises to produce micro-particle powders, and has broad-spectrum applicability to all solutions such as emulsions and suspensions, and is suitable for drying of heat-sensitive substances such as biological products, biological products, etc. Pesticides, enzyme preparations, etc., because the sprayed materials are only exposed to high temperature when they are sprayed into mist-shaped particles, so they are only heated instantly, which can keep these active materials from being damaged after drying.



ISD-2



Design

- Desktop Mini Spray Dryer, easy to complete your operation on the laboratory bench.
- Machine buttons, thermometers, air pipes, and touch screens are all ergonomically designed, fast plugging and unplugging, and user-friendly operation.



Quick disassembly design

- Thermometer, air pipeline, power supply, all use quick-plug design.
- Experiment operation is faster.



Nozzle

- The top manufacturer in the nozzle industry - American Spray Company.
- High-quality nozzles guarantee high precision and maximum service life of the equipment.



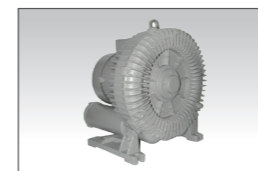
PLC

- The equipment adopts German Siemens controller, a leading brand in the field of industrial control.
- Rich control modes allow our equipment to have the richest function settings in the industry.



Panel

- The touch screen adopts Taiwan's excellent brand Wei Lun Tong, the touch control is accurate, and the picture performance is delicate.
- The control interface is beautifully displayed, easy to operate, and fully functional
- Added USB data export function to facilitate data storage.



Fan

- The size of the fan speed and the wind pressure will affect the material spraying effect of different products, and correspond to different product yields.
- Users can choose the best feeding method according to the material situation.

Technical Parameter

Model	ISD-2
Maximum water evaporation	1800mL/h
Feed quantity	0~2000ml/h
Inlet air temperature	30~250 °C ±1 °C
Outlet air temperature	30~120 °C ±1 °C
Dry air flow	70m³/h, Max 600m³/h; pressure 1000Pa
Fan	0.2kW/AC220V; Delta inverter
Electric heater	3.0kW/AC220V; Material: 2520 special stainless steel
Inlet and outlet air temperature monitoring	Taiwan PT-100 platinum resistance, intelligent PID control
Spray system	Original imported atomizing nozzle from the United States, 0.7mm diameter dual-fluid nozzle
Average drying time	1.0~1.5 seconds
Automatic blocking device	The frequency of automatic needle penetration is adjustable, 0~60 seconds/time
Control system	German Siemens PLC automatic control system; imported 7-inch color touch screen
Software	Display and control of inlet air temperature, outlet air temperature, variable frequency, needle frequency, etc. Data logging and export, curve analysis functions, alarms and overload protection
Electrical standard	Made by Schneider Electric
Voltage	AC220V, 50Hz
Rated power	3.6kW
Dimensions (HxWxD)	922 × 570 × 620mm
Total weight	58kg

Lab Stainless Steel Spray Dryer

INNOVA Lab Stainless Steel Spray Dryer (ISD-2S) suitable for the production of trace particle powders in laboratories of universities, research institutes and food, pharmaceutical and chemical enterprises. It has wide applicability to all solutions such as emulsions and suspensions. Suitable for drying heat-sensitive substances such as biological products, biological pesticides, and enzymes. preparations, etc.



ISD-2S

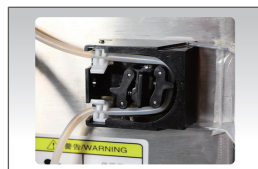
Main Features

- Original 316 nozzle, high efficiency.
- Real-time regulation of PID constant temperature control technology, accurate temperature control, heating temperature control accuracy ± 1 °C.
- The spraying, drying and collecting devices are made of high-quality stainless steel.
- The atomization structure of the two-fluid spray is made of high-precision 316 stainless steel. The particle size of the sprayed powder is normally distributed and the fluidity is good.
- The ejector is automatically dredged (through needle) and the frequency is adjustable. When the nozzle is blocked, it will be automatically removed to ensure the continuity of the experiment.
- Unique protection function, the fan does not start, the heater cannot start.
- Built-in imported oil-free air compressor, the noise is less than 50db.
- The dried product has uniform particle size.



Touch screen

- LCD display, combination of automatic control and manual control. Support Chinese and English switching, temperature range adjustment, temperature change curve.



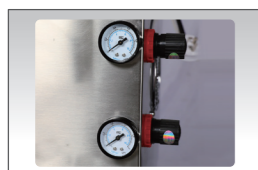
Peristaltic pump

- The feeding amount can be adjusted by feeding peristaltic pump. The minimum sample processing volume is 50ml.



Drying chamber

- Made of high-quality stainless steel, and there is an observation window to visualize the entire spray drying experiment process.



Double pressure regulator

- Double pressure regulating valve, pressure gauge display, control spray pressure

Technical Parameter

Model	ISD-2S
Inlet air temperature	30 ~ 300 °C
Outlet air temperature	30 ~ 150 °C
Water evaporation	1500mL/h ~ 2000mL/h
Maximum feed quantity	2000mL/h
Minimum feed quantity	50mL
Feeding mode	Peristaltic pump adjustment
Average drying time	1.0~1.5s
Electric heater	4KW AC220V Single-phase grounding
Fan	0.55KW; Max air volume 5.6m ³ /min; Max air pressure 1020Pa
Air compressor	0.98KW; Max gas production 4.2m ³ /h
Working pressure of compressed air	2~3Bar
Dimensions (HxWxD)	1200 × 650 × 500mm
Nozzle diameter	1.00mm or 0.5mm optional
Weight	130kg

Pilot Spray Dryer

INNOVA Pilot Spray Dryer (ISD-3/5/10/20S) suitable for research institutes and food, pharmaceutical and chemical enterprise laboratories to produce micro-particle powders. It has broad-spectrum applicability to all solutions such as emulsions and suspensions. It is suitable for drying heat-sensitive substances such as biological products, biological pesticides, and enzymes. Preparations, etc., because the sprayed materials are only subjected to high temperature when they are sprayed into mist-like particles, so they are only heated instantaneously, which can keep these active materials from being damaged after drying.



ISD-3S

Features

- LCD touch screen parameter display: air inlet temperature/air outlet temperature/peristaltic pump speed/air volume/pass needle frequency.
- Fully automatic control: one-button start-up, after setting the spray process parameters, the peristaltic pump will start automatically when the temperature reaches the preset temperature.
- Manual control: if users need to adjust the process parameters in the experimental process, users can easily switch to the manual state.
- Equipped with nozzle cleaner, which can be removed automatically when the nozzle is blocked, and the frequency of through needle can be adjusted automatically.
- Shutdown protection function: just press the stop button when shutting down, and the machine will stop running immediately except the fan to ensure that the equipment will not burn out due to misoperation.
- The whole system is made of stainless steel, so that the drying process can be carried out in a pollution-free environment.
- Built-in oil-free air compressor, the noise is very low, less than 60db.



ISD-5/10/20S

Features

- The drying speed is fast. The surface area of the material liquid is greatly increased by centrifugal spraying. In the high-temperature air flow, 95-98% of the water can be evaporated instantly, and the drying time is only a few seconds.
- Suitable for heat sensitive materials. Because the liquid droplets and the hot air flow in the same direction, although the temperature of the hot air is higher, the material will not overheat when the water evaporates.
- Wide range of use. A large number of materials with very different physical properties are produced by this method.
- The product has good dispersibility, fluidity and solubility. This is because the drying is completed in an instant, and the product can maintain a uniform fine particle shape.
- The production process is simplified and the operation and control are convenient. For solutions with a moisture content of 40-60% (up to 90% for special materials), they can be dried into powder products at one time.

Technical Parameter

Model	ISD-3S
Inlet air temperature	30-300 °C
Outlet air temperature	30-140 °C
Water evaporation	1500mL/h -3000mL/h
Maximum feed quantity	3000mL/h
Minimum feed quantity	50mL
Feeding mode	Peristaltic pump adjustment
Average drying time	1.0~1.5s
Power	5KW / 220V
Dimensions (H×W×D)	1450×800×780mm

Model	ISD-5S	ISD-10S	ISD-20S
Inlet air temperature	50-300 °C		
Outlet air temperature	30-150 °C		
Max water evaporation	5kg/h	10kg/h	20kg/h
Rotating speed	15000-36000rpm	15000-36000rpm	15000-36000rpm
Spray disc diameter	52mm	52mm	80mm
Heat source	Electricity		
Electric heating max power	9KW(Option)	18KW(Option)	25KW (Option)
Total power	13KW	23KW	30KW
Power supply	380V		
Dimensions (W×D×H)	1700×1150×2000mm	2100×1300×2450mm	2400×1300×2850mm