

SD-1900A PILOT INERT LOOP SPRAY DRYER, LARGE PARTICLE





Spray drying of flammable and explosive organic solvents has always been difficult and prohibited due to potential explosion and flammability hazards. However, there is an urgent need for spray drying or granulation of organic solvents in many important new fields of research and application. We responded to this challenge and successfully launched a laboratory closed-loop spray dryer suitable for organic solvent drying. For the organic solvents most of the current laboratories use, SD-1900A laboratory closed-loop organic solvent spray dryer Safe and effective drying!

PRINCIPLE

SD-1900A laboratory closed cycle organic solvent spray dryer adopts a menu-type microprocessor controller (7-inch touch screen), which can directly set the inlet temperature, air flow, automatic needle frequency, pump speed, and realize data acquisition and process monitoring and control. The self-priming peristaltic pump sends the sample liquid from the container through the nozzle into the drying chamber, while the compressed nitrogen gas enters the drying chamber from the outer sleeve to make the liquid micronized, and the heated nitrogen enters from the upper layer to meet the sprayed liquid particles, and the article begins to dry. The dried powder particles are separated from the waste gas by the cyclone separator and then enter the collection bottle. The gas stream carrying the organic vapor is cooled down in the heat exchanger, and then the solvent is condensed and recovered in the refrigeration unit, and the clean nitrogen gas enters the next cycle.

APPLICATION

SD-1900A laboratory organic solvent spray dryer is mainly suitable for the production of micro-granular powder in the laboratories of universities, research institutes and food, medicine and chemical enterprises, and is suitable for aqueous solutions and most organic solutions. Because the minimum inlet air temperature of the aqueous solution is 105°C, and the organic solvent can be as low as 60°C depending on the boiling point, it is suitable for drying heat-sensitive materials such as biological products, biological pesticides, enzymes and other materials.

FEATURES

- SD-1900A laboratory closed-loop organic solvent spray dryer can solve the problem of difficult drying of materials containing organic solvents in spray drying. Generally, organic solvents are flammable and explosive. Explosion-proof closed laboratory spray dryer The material can be circulated in a closed drying system, which can avoid the contact between the organic solvent gas and the outside oxygen air, and ensure safe production;
- SD-1900A laboratory closed cycle organic solvent spray dryer can solve the problem of difficult drying of oxidizable materials in the production of raw materials. This technology utilizes the oxidation resistance of inert gas, and the materials are dried in an environment with oxidation resistance of the closed cycle system. And conveying, plays the purpose of isolating from oxygen, ensuring the quality of drying production of oxidizable materials;
- SD-1900A laboratory closed cycle organic solvent spray dryer can solve the problem of poisonous gas pollution in the production of some raw materials, and some materials or organic solvents will produce toxic gases when gasified. The inert gas closed cycle laboratory spray dryer will make these The toxic gas produced is sealed in the system and collected in the subsequent process, which can reduce environmental pollution and is conducive to environmental protection.
- SD-1900A laboratory closed cycle organic solvent spray dryer is easy to operate: the control system adopts PLC automatic control, one-button start-up, color touch screen operation, and experimental parameters such as feed volume, inlet air temperature, air volume, The

frequency of needle penetration can be changed immediately according to the needs of the experiment, which is convenient for users to use;

- SD-1900A laboratory closed cycle organic solvent spray dryer runs stably: the core components of the equipment such as touch screen, fan, heater and control system are imported equipment, which ensures the stability and reliability of equipment operation;
- SD-1900A laboratory closed cycle organic solvent spray dryer is convenient for material preparation: the minimum material needs only 20-30 ml, which is conducive to the processing and preparation of small samples, but the maximum processing capacity can reach 1500ml/H, and the processing of large quantities of materials is also extremely fast ;
- SD-1900A laboratory closed-loop organic solvent spray dryer adopts concentric spray head: during the experiment, it is absolutely not eccentric during atomization, and it will not spray on the bottle wall during spraying and affect the recovery rate. The spray head can move up and down. Change the atomization position to improve the spray drying effect;
- Temperature protection: When the experiment is over, the heater temperature is extremely high, and the fan needs to continue to work to reduce the internal temperature to ensure the safety of the equipment. The SD-1900A organic solvent spray dryer program can automatically control the fan operation, even if the operator makes mistakes. The fan cannot be turned off until the system temperature drops to the default safe state of the system, the fan will automatically stop;
- The fan is durable: the wind is blown out by the positive pressure of the fan, in the same direction as the material, all materials are not in contact with the fan, the fan will not be polluted, and the fan is durable, and the fan is made of corrosion-resistant material to ensure that it will not be corroded by organic solvent vapors ;

SPECIFICATIONS

Model	SD-1900A
Display	7" Color touch screen operation control, all English operation interface
Feed volume	Maximum 5000mL/H, MIN 100ml
Display parameter	Air inlet temperature/air outlet temperature/peristaltic pump speed (control material flow)/oxygen concentration/ de-blocker frequency/ air volume
Spray nozzle	Spray head is a concentric spray head. When atomizing, make sure that there is no eccentricity to spray to the side of the bottle wall. After installation, the spray head can move up and down, so as to adjust the atomization position and improve the spray drying effect;
Safety	Entire system is in a closed state, and the oxygen concentration is monitored online. Once the oxygen concentration in the system reaches 2.5%, the system will automatically stop and alarm.
Nozzle diameter	Can be choose from 0.7mm, 1mm, 1.5mm & 2mm, and can be customized according to customer requirements, suitable for various materials and different powder particle diameter requirements
Inlet air temperature control	60℃ ~ 300℃
Temperature control	Timely regulation of PID constant temperature control technology
Temperature control accuracy	±2℃
Inert system	Nitrogen-containing circulation system and solvent online recovery system
Optional	low-temperature cooling circulation chiller

000 «Диаэм»

Москва

ул. Магаданская, д. 7, к. 3 ■ тел./факс: (495) 745-0508 ■ sales@dia-m.ru

www.dia-m.ru

С.-Петербург
+7 (812) 372-6040
spb@dia-m.ru

Новосибирск
+7(383) 328-0048
nsk@dia-m.ru

Воронеж
+7 (473) 232-4412
vrn@dia-m.ru

Йошкар-Ола
+7 (927) 880-3676
nba@dia-m.ru

Красноярск
+7(923) 303-0152
krsk@dia-m.ru

Казань
+7(843) 210-2080
kazan@dia-m.ru

Ростов-на-Дону
+7 (863) 303-5500
rnd@dia-m.ru

Екатеринбург
+7 (912) 658-7606
ekb@dia-m.ru

Кемерово
+7 (923) 158-6753
kemerovo@dia-m.ru

Армения
+7 (094) 01-0173
armenia@dia-m.ru

