



Specialized in laboratory equipment

YC-018 LABORATORY SCALE SPRAY DRYER

SHANGHAI PILOTECH INSTRUMENT & EQUIPMENT CO., LTD



Focused · Perfection · Reputation · Innovation

The world leading R&D solution for Spray Drying

- Famous brand for spray dryer in China
- 15 years continuous development
- Over 1,500 customers all over the world



Mini Spray Dryer YC-018
The world leading R&D solution for Spray Drying

The Mini Spray Dryer
YC-018 - innovative solutions for
spray drying in the laboratory

The Mini Spray Dryer YC-018 is the result of 15 years continuous development, is your choice for the quick and gentle drying to powder of liquid material. The impressive features of the Spray Dryer include its efficient performance with very short set-up times, an effective integrated nozzle cleaning mechanism and a high degree of flexibility thanks to the different cylinder geometries. The system was designed to be stand by a keyboard, conducted by a colorful crystal screen of touch guidance mode, and allowed two modes of run: Automatic-mode, and Eye-monitored mode for the purpose of easily controlling experimental process.

Flexible switch between small and high processing capacities

The minimum and maximum capacities of YC-018 mini spray dryer are respectively 50ML and 4L/H. Being capable of continuous production, it is a perfect combination of minor, small and pilot scale.



Large particle processing ability

Size of particles dried with conventional lab spray dryers is generally 1-25 μ m, but they cannot meet requirements of processing of catalyst and other large particles. With YC-018, you can get particles with a maximum size of 100 μ m and it is the first choice for processing of catalyst and other large particles sizing 60-100 μ m



Perfect combination of low temperature and ultra-high temperature

With maximum inlet air temperature reaching 350°C, it can meet ultra-high temperature drying requirements of ceramics and other materials; with minimum inlet air temperature being 105°C, it is especially suitable for spray drying of traditional Chinese medicine, extracts of natural substances and other materials with sugar content. No material will adhere to the wall during drying and materials are featured with excellent fluidity after drying.

Controls & Functionality

YC-018 mini spray dryer is 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, the operator can control the following functions:

- Inlet Temperature
- Airflow Volume
- Air compressor flow
- Pump Speed
- De-blocker Frequency



Easy to use

- Color Touch Screen, Fast setup and cleaning times
- Scale up to pilot or industrial scale possible.
- Visible process due to glass assembly
- Adjustable particle size (1 – 100 microns)



Two Fluid Nozzle with SUS316L stainless steel

The stainless steel spray assembly consists of an inner tube for the liquid sample leading to a small diameter jet. An outer tube directs compressed air to the nozzle.



All units are supplied with 0.7mm 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-blocker is sometimes necessary with materials which may solidify or when large particles in suspension cause blockages in the jet.

High recovery rate

With only one cyclone separator, recovery rate is always a problem with lab spray dryers and it is difficult to improve recovery even with two cyclones. With the structured redesigned, YC-018 can reach a maximum recovery rate of 92%, excellently solving the problem of low recovery.



Temperature protection

The heater has an extreme high temperature when experiment finished, which needs air blower to continue working in order to reduce the inside temperature and ensure the safety of equipment. YC-018 spray dryer can control air blower running automatically, even the operator wants to turn off the air blower, the system would prevent the operator until the temperature of system reduce to the default security state of system ;

SUS 304 stainless steel

Spray chamber, cyclone separator, collector are all made of SUS 304 stainless steel . It can work in a no-pollution and stable environment, and sight glass equipped so the whole process can be inspected. All the spare parts are easy to install and clean.

Trusted by the users

Over 1,500 domestic customers of top universities, enterprises and research institutes use our mini spray dryer. And exported to more than 40 countries & regions such as the United States, Italy, South Korea, Mexico, Singapore, Canada, Malaysia, Chile and Russia etc.



香港科技大學
THE HONG KONG
UNIVERSITY OF SCIENCE
AND TECHNOLOGY



NUS
National University
of Singapore

PRINCIPLE

1. A menu driven microprocessor controller allows the selection of inlet temperature, airflow, automatic de-blocker frequency and pump speed.
2. 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.
3. 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 airflow is directed through a flexible 60 mm diameter hose direct to atmosphere or to an existing extraction system.

Wide range of applications

YC-018 mini Spray dryer 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:

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



Mini Spray Dryer YC-018 technical data

Sr.no	Parameter	Pilotech YC-018 Spray Dryer
1	Power	5500W
2	Voltage	220V,50/60 Hz
3	Atomizer material	SUS 316 Stainless steel
4	Evaporating Capacity	4 L/H for water
5	Airflow	0-330 m³/h
6	max. Input temperature	350°C
7	Heater power	5000W
8	Temperature precision	±1°C
9	Spray gas	4.2m³/h, 2-5bar
10	Nozzle jet	0.7mm standard/(0.5/0.75/1.0/1.5/2.0mm available)
11	Nozzle type	Two fluid nozzle
12	Possible particle size range	1-100µm
12	Operation mode	Automatic/Manual
14	Max. Sample feed	5000ml/hr
15	Minimum sample volume	100ml
16	Spray chamber material	SUS 304 stainless steel
17	Cyclone separator material	SUS 304 stainless steel
18	Receiving tank material	SUS 304 stainless steel
19	Body material	SUS304 Stainless steel
20	Seal of cyclone/cylinder	Silicone
21	Deblocking	Automatic
22	Dimensions	950*750*1700
23	Weight	160KG
24	Display	7-Inch LCD display for Heat, Spray, Pump, Air pressure, de-blocker frequency
25	Inert loop (for organic solvents)	Optional



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