

Spray Dryers | Powder Granulating, Drying, Mixing

GB211C-B

Evaporated water capacity 1500mL/h

Temp. adjustment range 0~240°C

Liquid sending pump flow rate range 0~26mL/min

Spray dryer for powder granulation and drying of wet powders, one machine with multi-purpose, save more space.



Features

This device uses a fluidized bed for powder granulation and drying of wet powders. It is a fluidized bed drying and granulating device formed by combining the main unit GB211C with accessory GF200.

The drying chamber is made of ultra-hard glass, allowing observation of the fluidized bed state and spray state. Additionally, it is very convenient for data verification of flow meters, spray pressure gauges, inlet temperature, and outlet temperature. After purchasing the GF301 spray attachment, it can spray as well as fluidized bed granulate, providing strong expandability. It serves multiple purposes, accommodating various experimental objectives, effectively saving laboratory space, and avoiding multiple purchases, thus saving costs.

- 7-inch ultra-large touch screen with options for Chinese/Japanese/English, easy and convenient to operate.
- Automatic lifting function facilitates the installation and removal of the drying chamber.
- Experimental data recording and storage can be realized (optional function).
- Remote control is possible (optional function).
- Temperature zoning control is adopted, heating up faster and more stable.
- High-power heater significantly reduces temperature reaching time and offers the wider temperature setting range, meeting more sample experiments.
- Widely used in the R&D of food, pharmaceuticals, and new materials, as well as sample coating.

Specifications

Model		GB211C-B
Performance	Moisture evaporation capacity	Max. 1500mL/h
	Temperature regulator setting range	0~240°C (inlet temperature), 0~100°C (outlet temperature)
	Temp. adjusting accuracy	±1°C
	Drying air volume adjustment range	0.12~0.7m ³ /min
	Spray air flow adjustment range	0~30L/min
	Spray pressure usage range	0.3~0.6Mpa
Composition	Nozzle cleaning function	Manual pulse air cleaning from the nozzle front end
	External output	Inlet temperature, outlet temperature output (4~20mA)
	Temperature regulator	Multi-PID control
	Touch screen	Temperature adjustment, blower, heater, liquid feed pump, pulse jet switch, automatic needle cleaning, alarm display, operation curve
	Control switch	Inlet temperature, outlet temperature control switch
	Temperature sensor	PT100 thermistor
	Heater	3.2kW
	Liquid feed pump	Duct type liquid feed pump
	Spray air pump	Use spray air compressor (sold separately)
	Service socket	For stirrer: 200-230V~1A
	Suction blower	Brushless blower
	Filters	Suction filter, exhaust filter
	Spray nozzle cooling structure	Joints×2, OD Φ10.5mm (connected to a chiller)
	Spray air connection	Joint outer diameter, Φ7mm
	Exhaust connection caliber	Φ50mm
Safety functions	Overheating at inlet and outlet temperatures, liquid feed pump reverse function, overcurrent and leakage protection switch, abnormal nozzle connection	
Specifications	External dimensions	W760×D420×H1350mm
	Weight	Approx. 110kg
	Power supply (50/60Hz) rated current	200-230V~ 50/60Hz 17-21A
Accessories	2 liquid feed hoses, 1 exhaust hose (with 1 hose tie), exhaust conversion joint, outlet temperature sensor, fuse (250V 2A), antistatic connection cable, 5m intake hose (with 2 hose ties), nozzle conversion sleeve, stand assembly, protective cover (COV30), GF200 glass components	

Control panel



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3 Furnaces

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5 Incubators

6 Plasma Equipment

7 Water Purifiers

8 Baths

9 Water Circulators

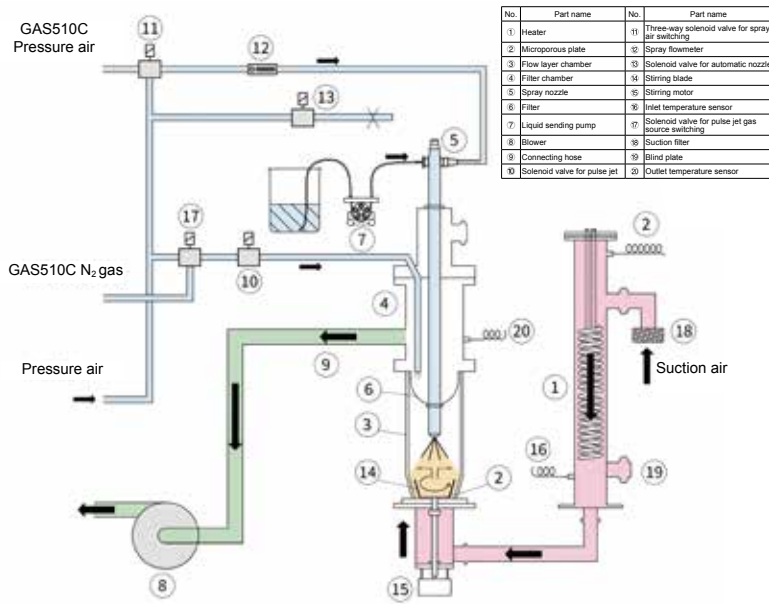
10 Rotary Evaporators

11 Stirrers & Shakers

12 Options

CE Certification

System diagram



Application



- Granulation, drying, mixing of powders
- Pharmaceuticals, food, catalysts, fuels, detergents, ceramics, etc.
- This equipment is applicable to samples within the range of 50g to 300g, and is particularly suitable for handling high-value samples or research-level experiments.

Operability

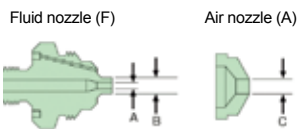


The disassembly or cleaning of the drying chamber, cyclone, and product collection container adopts a quick plug-in method, which is very convenient.

Spray nozzle



The top part of the spray consists of a liquid nozzle and an air nozzle.



Code	Nozzle size		Nozzle specifications	Applicable models
A080999031	Fluid cap PF2850-SS	Aperture A=0.711mm Aperture B=1.270mm	3	ADL312SC/GB211C/DL411C/DL410 (Standard) ADL311(S)/GB210
A080999040	Air cap PA64-SS	Aperture C=1.626mm		
A080999031	Fluid cap PF2850-SS	Aperture A=0.711mm Aperture B=1.270mm	2	ADL311(S)/ADL312SC/GB210/ GB211C/DL410/DL411C
A080999029	Air cap PA-70-SS	Aperture C=1.778mm		
A080999034	Fluid cap PF40100-SS	Aperture A=1.016mm Aperture B=2.540mm	6	ADL312SC/GB211C/DL410/DL411C
A080999035	Air cap PA120-SS	Aperture C=3.048mm		
A080999049	Fluid cap PF60100-SS	Aperture A=1.524mm Aperture B=2.540mm	4	ADL312SC/GB211C/DL410/DL411C
A080999035	Air cap PA120-SS	Aperture C=3.048mm		

Implementation case

Sample		Adhesive			Measurement conditions					Results	
Name	Weight (g)	Name	Concentration (%)	Spray amount (g)	Inlet temp. (°C)	Liquid feed amount (g/min)	Spray air flow rate (L/min)	Spray times	Nozzle height (cm)	Average particle size* (µm)	Recovery rate (%)
Silicon	200	PVA	5.0	77	125	15	8	4	27	339	58
Iron oxide	160	PVA	2.5	50	120	15	10	4	21	205	62
Ceramics	200	PVA	3.0	106	120	15	9	3	22	404	82
Aluminum oxide	160	PVA	3.0	60	110	15	8	4	22	311	88
Silicon dioxide	150	CMC	1.0	100	120	15	9	4	22	306	60
Lactose	200	Sorbitol	70.0	10	100	14	10	4	25	390	80
Black tea extract	250	Thickener	0.5	24	85	6	8	10	28	333	77
Oil-containing powders	200	Glucose	30.0	11	85	4	8	7	22	236	82

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