

Spray Dryers | Multi-functional

GB211C-A

Evaporated water capacity 1500ml/h

Temp. adjustment range 40~240°C

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

Nozzle options For liquids-air

New intelligent spray dryer with multiple functions and easy operation.



Features

- Instantaneous heating of granular samples ensures that even thermally stable samples are not oxidized and uniform fine powder can be obtained.
- The micro-powder after spraying has low moisture content, will not be oxidized, and no pollution.
- Since the sample is directly dried from the solvent or suspension into micro-powder, it eliminates the pre-processing and post-processing operations such as filtration, separation, and grinding, and avoids contamination during these operations.
- By connecting the organic solvent recovery device, samples containing organic solvents can be professionally and safely handled.
- After installing the optional granulation component GF200, it can be used as a fluidized bed dryer and granulator.
- Equipped with an electric lift, it is convenient for installing and removing attachments.
- The machine is equipped with power socket (1A) for the stirrer, convenient for stirring the suspension while sampling.
- Use a unique peristaltic sampling pump, nozzle cooling mechanism, pulse nozzle cleaning mechanism, anti-blockage needle, etc., to achieve diversity and stability in spray conditions.
- Brand new 7-inch ultra-large touch screen control panel, available in Chinese/Japanese/English, easy and convenient to operate.
- Both two-fluid nozzles and three-fluid nozzles can be used.
- 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 heaters greatly enhance the time to reach temperature and the temperature setting range is wider, meeting more sample experiments, and the temperature setting range is wider to meet more sample experiments.
- Widely used in the development of food, pharmaceuticals, new materials, and sample coating.

Specifications

Model		GB211C-A
Applicable test material		Water-soluble & organic solvent (when connected to GAS411C)
Performance	Moisture evaporation capacity	Max. 1500ml/h
	Temp. regulator setting range	0~240°C (inlet temperature), 0~100°C (outlet temperature)
	Temp. adjusting accuracy	Inlet temperature $\pm 1^\circ\text{C}$
	Drying air volume adjustment range	0.2~0.9 m 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)
	Temp. regulator	Multi-PID control
	Touch screen	Temperature adjustment, blower, heater, liquid feed pump, pulse air switch, automatic needle, alarm display, operation curve
	Control switch	Inlet temperature, outlet temperature control switch
	Temp. sensor	PT100 thermistor
	Heater	3.2KW
	Liquid feed pump	Duct type liquid feed pump
	Spray air pump	When using a spray air compressor (sold separately) or connecting to an organic solvent recovery device (sold separately) with a built-in air compressor
	Service socket	For stirrer: 200-230V~1A
	Suction blower	Tubular blower
	Filters	Suction filter, exhaust filter
	Solvent recovery	Use a solvent recovery device (sold separately)
	Spray nozzle cooling structure	It can connect to CF312L-B: joints $\times 2$, outer diameter $\Phi 10.5\text{mm}$ (sold separately)
Spray air connection	Joint outer diameter, $\Phi 7\text{mm}$	
Exhaust connection caliber	$\Phi 50\text{mm}$	
Safety functions		Inlet, outlet temperature overheating, liquid feed pump reverse function, overcurrent leakage protection switch, nozzle connection abnormality (when connected to GAS411C)
Specifications	External dimensions	W760×D420×H1350mm
	Weight	Approx. 110kg
	Power supply	200-230V~50/60Hz 17-21A
Accessories		Liquid feed hose $\times 2$, exhaust hose (with 1 hose clamp) $\times 1$, exhaust conversion joint, outlet temperature sensor, fuse, antistatic connection cable, 5m intake hose (with 2 hose ties), nozzle conversion sleeve, stand assembly, protective cover (COV30), GF301C glass components, quick closure, air tube A, air tube B, product warranty, user manual

Control panel



1 Sterilizers

2 Granulation and Spray Dryers

3 Muffle Furnaces

4 Ovens

5 Incubators

6 Plasma Equipment

7 Water Purifiers

8 Baths

9 Water Circulators

10 Rotary Evaporators

11 Freeze Dryers & Cold Traps

12 Stirrers & Shakers

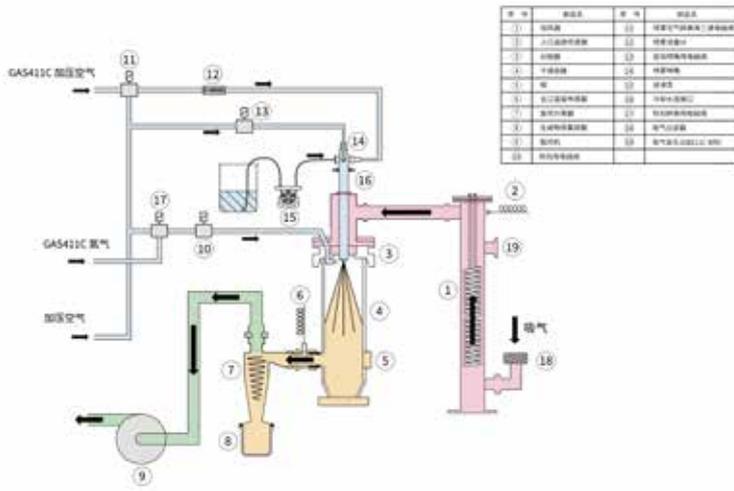
13 Washers

14 Analysis and Test Devices

15 Options

CE Certification

System diagram

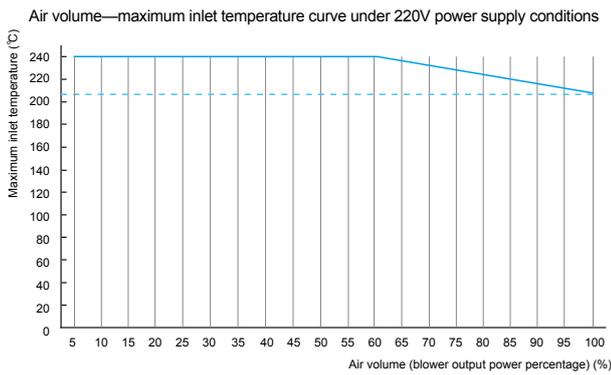


Application



- Food and Pharmaceuticals
Milk powder, egg yolk, soy sauce, coffee, starch, protein, hormones, serum, antibiotics, enzyme flavorings, extracts, etc.
- Organic Chemistry
Paraffin, fuels, detergents, surfactants, pesticides, preservatives, synthetic resins, pigments, etc.
- Inorganic Chemistry
Ferrites, ceramics, toner, magnetic tape materials, photosensitive materials, various industrial chemicals, test sample waste liquids, etc.

Relationship between blower output power and maximum inlet temperature (reference)



Operability



The disassembly or cleaning of the drying chamber, cyclone, and product collection container adopts a quick-invert method, making it very convenient.

Organic Solvent Recovery Device GAS411C



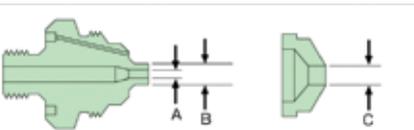
Spray nozzle



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

Liquid nozzle (F)

Gas nozzle (A)



Code	Nozzle size		Nozzle specifications	Applicable models
	Liquid cap	Air cap		
281298	PF2050-SS	Aperture A=0.508mm Aperture B=1.270mm	1	ADL311(S)/GB210-A
	Air cap PA64-SS	Aperture C=1.626mm		
	PF2050-SS	Aperture A=0.508mm Aperture B=1.270mm		
281290	PF2050-SS	Aperture A=0.508mm Aperture B=1.270mm	2A	ADL311(S)/GB210-A
	Air cap PA70-SS	Aperture C=1.778mm		
281292	Liquid cap PF2850-SS	Aperture A=711μm Aperture B=1270μm	3	ADL312SC/GB211C/DL411C/DL410 (standard) ADL311(S)/GB210-A
	Air cap PA64-SS	Aperture C=1626μm		
	Liquid cap PF2850-SS	Aperture A=711μm Aperture B=1270μm		
281291	Liquid cap PF2850-SS	Aperture A=711μm Aperture B=1270μm	2	ADL311(S)/ADL312SC/GB210-A/ GB211C/DL410/DL411C
	Air cap PA-70-SS	Aperture C=1778μm		

Repeatability of spray drying tests

Test No.	Sample name	Sample concentration (%)	Drying conditions							Recovery amount (g)	Recovery rate (%)
			Inlet temp. (°C)	Outlet temp. (°C)	Dry air amount (m³/min)	Spray air pressure (Mpa/kg/cm²)	Test sample amount (g)	Sample liquid feed amount (g/min)	Test time (min)		
1	Coffee solution	5.00	150	80	0.45	147(1.5)	198	6.6	30	8.1	81.8
2	Coffee solution	5.00	150	80	0.45	147(1.5)	198.7	6.6	30	8.1	81.5
3	Coffee solution	5.00	150	80	0.45	147(1.5)	200.6	6.7	30	8	79.8
4	Coffee solution	5.00	150	80	0.45	147(1.5)	198.1	6.6	30	8.2	82.8
5	Coffee solution	5.00	150	80	0.45	147(1.5)	199.3	6.6	30	8.4	84.3

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