

Organic Solvent Recovery Units | N₂ Closed Cycle

GAS510C

Circulating airflow 0.12~0.65m³/min

Recovery capacity Above 3000mL/h

Brand new upgraded organic solvent recovery circulation system.



Features

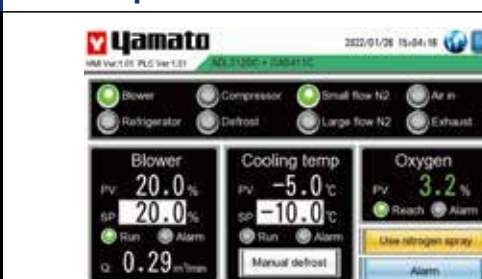
When using organic solvents in the spray dryer ADL312SC, GB211C-A, DL411C, this recovery unit is used to prevent external discharge.

- Through a nitrogen closed-loop cycle and using a refrigerator and condenser for solvent recovery, it enables the handling of combustible materials.
- It can dry easily oxidizable substances.
- Due to low-temperature drying capabilities, it can also dry materials prone to thermal deformation.
- Under stringent safety measures, spray drying allows for the recovery of products and solvents.

Specifications

Model	GAS510C		
Solvent recovery method	Condensation recovery		
Performance	Circulating gas	Nitrogen replacement + closed loop	
	Condensation temp. setting range	-20~30℃	
	Circulating airflow	0.12~0.65 m ³ /min	
	Compressed air source flow	32L/min	
Composition	Air compressor (for spraying)	Oil-free piston compressor	
	Circulation fan	Roots blower	
	Solvent recovery container	2L flask (with anti-fall flask holder)	
	Refrigerator	Air-cooled fully sealed refrigeration unit, 735W R404A	
	Solution recovery container	Double condenser cooling structure	
	Filters	Class 100 high-efficiency filter (corrosion-resistant type)	
	Control panel	Condensation temperature control and display	
		Blower output power display	
		Real-time oxygen concentration	
		Switching of spray air sources	
Oxygen concentration meter	0.1~25% Vol		
Micro pump	Pump suction type oxygen sensor monitoring		
Safety functions	Oxygen concentration upper limit alarm, flammable gas leakage alarm, overcurrent protection switch, nitrogen forced introduction (when oxygen concentration rises)		
Specifications	External dimensions	W710×D950×H1450mm	
	Weight	240kg	
	Power supply (50/60Hz) rated current	200-230V~50/60Hz 5.5-12A	
Accessories	Liquid delivery hoses (2 each of silicone and Viton), 2 stainless steel corrugated hoses, PVC exhaust pipe, connecting pipes, recovery flask (2L)		

Control panel



- Brand new 7-inch ultra-large touch screen control panel, available in Chinese/Japanese/English, easy and convenient to operate.
- It can communicate with the control panel of the spray dryer.
- It can automatically select the spray air source.
- Remote control is available (optional).
- All parts have status indicators.
- Circulating airflow display (optional).
- Main functions

- ① Closed system (nitrogen closed-loop type)
- ② Oxygen concentration control function
- ③ Flammable gas detection function
- ④ Diagnosis for abnormal condensation temperature
- ⑤ Other self-diagnosis functions (temperature sensor disconnection detection/ abnormal oxygen concentration detection/nozzle removal detection)

1 Sterilizers

2 Granulation and Spray Dryers

3 Furnaces

4 Ovens

5 Incubators

6 Plasma Equipment

7 Water Purifiers

8 Baths

9 Water Circulators

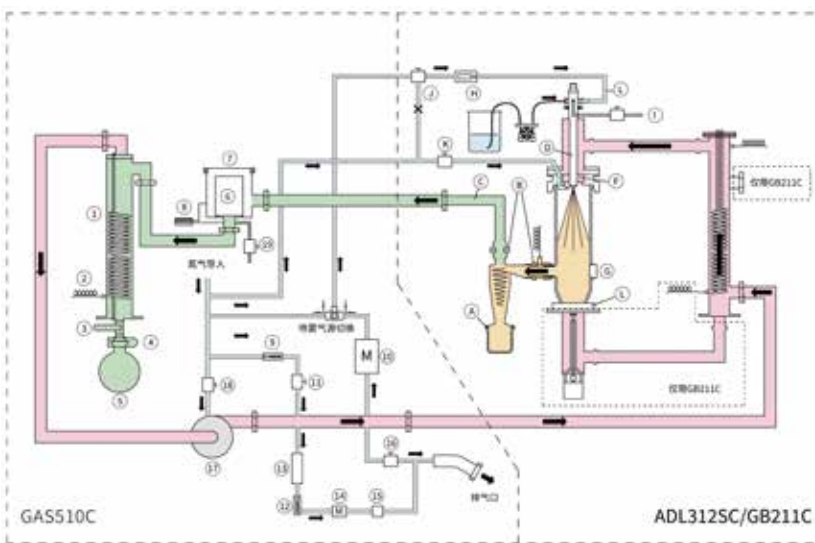
10 Rotary Evaporators

11 Stirrers & Shakers

12 Options

CE Certification

System diagram



No.	Part name	No.	Part name
1	Evaporators	A	O-rings
2	Sensors	B	Seal rings
3	Ball valves	C	Corrugated tubes
4	Flask holders	D	Spray nozzle
5	Recovery flasks	E	Coiled tubes
6	Filters	F	Aluminum honey-comb rectifiers
7	Filter chambers	G	Safety cover
8	Differential pressure gauges	H	Pressure gages
9	Flow meter (for N ₂ introduction)	I	Push pin valve
10	Compressor	J	Three-way valve
11	Electromagnetic valve (for N ₂ control)	K	Electromagnetic valve
12	Flow meter (for O ₂ concentration)	L	Seal rings
13	Activated carbon filter		
14	Pump		
15	O ₂ Sensors		
16	Electromagnetic valve (for exhaust)		
17	Blower		
18	Electromagnetic valve (for N ₂ introduction)		
19	Electromagnetic valve (for air inlet)		

Operation curve



Applicable organic solvents reference

Selection of liquid delivery hoses

Silicone hose: Ethanol, IPA, Methanol, Acetone, Ethyl Acetate

Viton hose: Xylene, Toluene, Benzene, Ethane, Chloroform, Dichloromethane

[Boundary oxygen concentration table]

Organic Solvent	Boiling Point [°C]	Melting Point [°C]	Boundary Oxygen Concentration [%]
Xylene	(o)·144	(o)·25	(o)·10.5
IPA	82.3	-88	9.0
Benzene	80.1	5.5	10.5
Ethanol	78.4	-114.3	9.9
Ethyl Acetate	77.1	-83.6	10.0
Ethane	67.7	-95.3	11.4
Methanol	64.6	-97.4	9.7
Chloroform	61.2	-63.5	Non-flammable
Acetone	56.2	-94.6	10.4
Dichloromethane	40.0	-97.7	23.9

Usage objects and fields



- Non-oxide ceramics related
- Polymer materials related
- Superconducting materials related
- Pharmaceuticals related
- Food-related

Circulation & airflow monitoring meter (optional)



Sterilizers	1
Granulation and Spray Dryers	2
Furnaces	3
Ovens	4
Incubators	5
Plasma Equipment	6
Water Purifiers	7
Baths	8
Water Circulators	9
Rotary Evaporators	10
Stirrers & Shakers	11
Options	12