

Organic Solvent Recovery Units | N₂ Closed Cycle

GAS411C/510C

Circulating airflow 0.12~0.65m³/min

GAS411C recovery capacity Above 1500ml/h

GAS510C recovery capacity Above 3000ml/h

Brand new upgraded organic solvent recovery circulation system.



Features

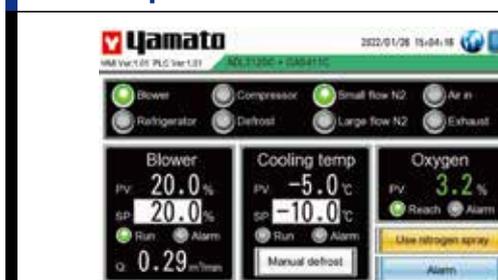
When using organic solvents in the spray dryer ADL312SC, GB211C-A, DL411C, this recovery unit is used to prevent external discharge.

- 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	GAS411C	GAS510C	
Solvent recovery method	Condensation recovery		
Performance	Circulating gas	Nitrogen replacement + closed loop	
	Condensation temp. setting range	-20~30°C	
	Circulating airflow	0.12~0.65 m ³ /min	
	Compressed air source flow	16L/min	32L/min
Composition	Air compressor (for spraying)	Linear reciprocating air compressor	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, 400W R404A	Air-cooled fully sealed refrigeration unit, 735W R404A
	Solution recovery container	Single condenser cooling structure	Double condenser cooling structure
	Filters	100-level high-efficiency filter (corrosion-resistant type)	
	Control panel	Condensation temperature control and display	
		Blower airflow control and display	
		Real-time oxygen concentration display	
		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 alarm, over-current protection switch, nitrogen forced introduction (when oxygen concentration rises)		
Specifications	External dimensions	W710×D950×H1450mm	
	Weight	210kg	240kg
	Power supply (50/60Hz) rated current	200-230V~50/60Hz 5-6A	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.
- 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 Inlet temperature overheat detection function
- ⑤ Outlet temperature overheat detection function
- ⑥ Other self-diagnosis functions (temperature sensor disconnection detection/overheating prevention/nozzle)

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

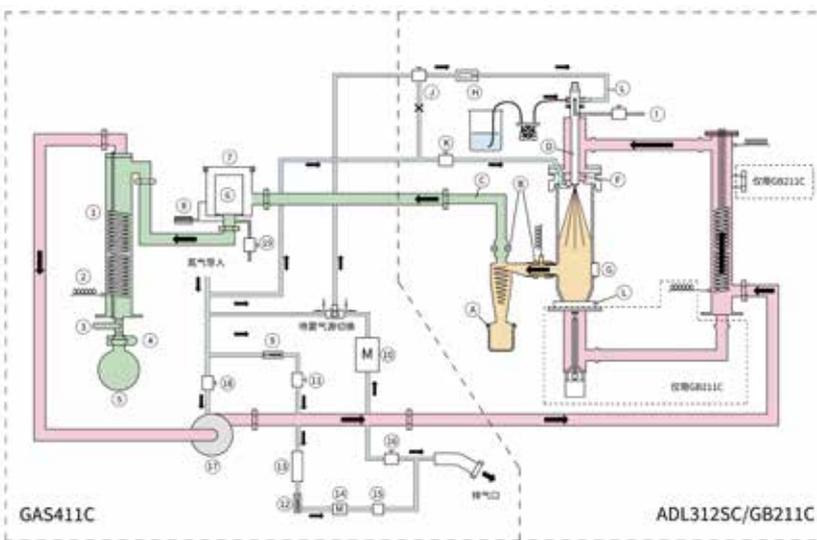
13 Washers

14 Analysis and Test Devices

15 Options

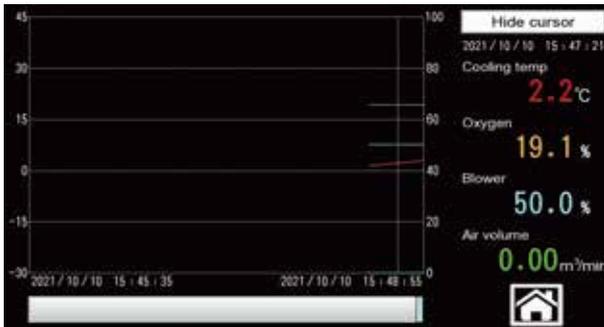
CE Certification

System diagram



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 helmet
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



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
Muffle Furnaces	3
Ovens	4
Incubators	5
Plasma Equipment	6
Water Purifiers	7
Baths	8
Water Circulators	9
Rotary Evaporators	10
Freeze Dryers & Cold Traps	11
Stirrers & Shakers	12
Washers	13
Analysis and Test Devices	14
Options	15