

Spray Dryer



Compact & Economical

ADL311SA

Max. 1,300mL/h

40~220°C

Max. 26mL/min.

Nozzle for liquid
Nozzle for gas

Low cost
& economical

Easily micronize liquid samples with a spray dryer.



ADL311SA: For aqueous soluble samples
(When organic solvent is used, a GAS410 organic solvent recovery unit is required.)

- Easy setup, easy operation
- Suitable for heat sensitive samples. High heat is not directly applied to dry, fine powder
- Obtain contaminant free fine powder which is not oxidized and contains minimal moisture
- Direct drying of solution or solution liquid into fine powder. No pre- or post processes such as filtration, separation, or pulverization required
- Safe and explosion free working is guaranteed in combination with GAS410 due to oxygen & pressure control
- Organic solvents are recovered in a closed loop to protect the environment to enable minimized pollution
- Easy operation with one-touch detachable mechanism for drying chamber and cyclone
- An arm jack is equipped as standard for easy installation and removal of glassware attachments
- A service outlet (max.2A) and a sample stand are equipped as standard for connecting a magnetic mixer for stirring suspended liquid samples
- Unique peristaltic pump, nozzle cooling mechanism, pulse jet mechanism and a nozzle knocker for stable spray drying
- ADL311SA is highly mobile on wheels, or usable with shorter height as a bench top unit by removing the movable caster

Specifications

Model	ADL311SA
Supported samples	Water soluble samples
Evaporated water amount	Max. 1300mL/h
Spraying system	Two-way nozzle, Nozzle No. 1A as standard (0.4mm)
Temp. adjusting unit setting range	40 to 220°C (inlet temperature), 0 to 98°C (Outlet temperature)
Temperature adjusting accuracy	Inlet temperature±1°C
Drying air amount adjusting range	0 to 0.7m³/min
Spray air pressure adjusting range	0 to 0.3MPa
Liquid sending pump flow rate range	0 to 26 mL/min
Spray air line washing function	Spraying at the nozzle tip, Manual pulse jet system
External output	Inlet temperature, Outlet temperature, Temperature outlet (4-20 mA)
Temperature adjusting device	PID digital temperature adjusting device
Touch panel	Blower, Heater, Liquid sending pump, Pulse jet switch, error display
Control select switch	Inlet temperature, Outlet temperature control switch (Outlet temperature control is conditional)
Temperature sensor	K-thermocouple
Heater	2.0kW (at200V) to 2.88kW (at240V)
Liquid sending pump	Fixed amount peristaltic pump
Spraying air pump	For water soluble samples air compressor is used (sold separately). For organic solvent samples the integrated compressor in GAS410 is used (No separate air compressor required).
Service outlet	For stirrer: AC115V, MAX. 2A
Suction blower	Bypass blower
Filter	Suction filter, Exhaust filter
Recovery of solvent	Solvent recovery unit GAS410 (Sold separately) is used
Spray nozzle cooling mechanism	Connector: nipple×2, O.D.: ø10.5mm
Spray air connection diameter	Nipple diameter: ø7mm
Spray air pressure	Bourdon tube: 0.3 MPa
Exhaust connecting diameter	ø50mm
Safety function	Inlet / Outlet temperature overheat, Sample feed reverse rotation mechanism, Over current electric leakage breaker, Nozzle connection error
External size	W580×D420×H1,125 mm
Weight	80kg
Power supply (50/60 Hz) rated current	AC220V 17A, AC240V 18A switching of terminals necessary
Accessories	Silicon tubes (with a stopper)×3, Exhaust duct (with one hose band)×1, Outlet temperature sensor, Spray air tube, Sample box, Static electricity removal earth, "Tetron" braided tube hose 5m (with two hose bands)



Example of installation: ADL311SA + GAS410

Control Panel

