

Spray Dryer

ADL310

Water Evaporation
Max.1300 ml/h
Operating Temperature Range
40deg.C to 200deg.C
Liquid Sample Flux
up to 28 ml/min.
Spraying Nozzle
for Liquid and Air

The ADL310 is a compact spray dryer using a spray dry method which enables simple use experiments.

- No danger of damaging foodstuffs, medical products and products that are sensitive to biochemical-heat.
- No oxidation takes place and the water content of the formed powders is low, so that there is no contamination.
- Even a solid body of ca.0.5g can be dried.

Control panel



■ Inlet temperature, outlet temperature are displayed digitally. Condition setting dials and stage level control switch are located on the front panel for easy use.



■ In this Spray Dryer, the sample are dried and transformed into a uniform fine powder of amorphous form, so both its solubility and reactivity are extremely high in comparison to crystal.



Easy operation and maintenance



■ Inlet temperature, outlet temperature and drying air volume are displayed digitally. Condition setting dials and stage level control switch are located on the front panel for easy use.

■ Drying chamber, cyclone, product vessel can be easily detached and cleaned.



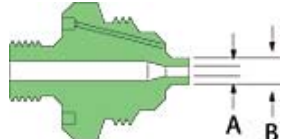
Spraying nozzle

Nozzle size (μm)

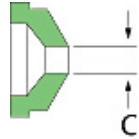
Model		1A	1S	2A	2S	3
Nozzle No.		1650	2050	2050	2850	2850
(F)	A	406	508	508	711	711
	B	1270	1270	1270	1270	1270
Nozzle No.		64	64	70	70	64
(A)	C	1626	1626	1778	1778	1626

Model 1A : Standard nozzle

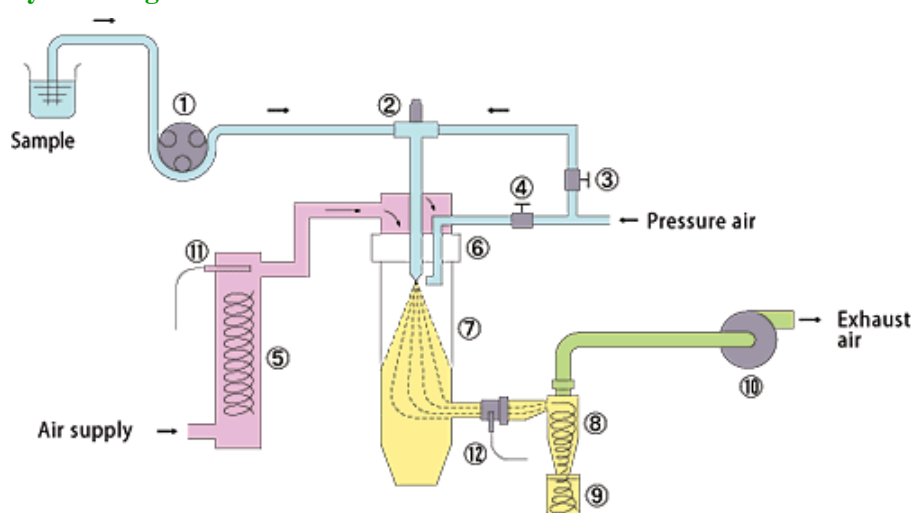
Liquid nozzle (F)



Air nozzle (A)



System diagram



- ① Fluid Pump
- ② Spray nozzle
- ③ Needle valve
- ④ Electromagnetic valve
- ⑤ Heater

- ⑥ Distributor
- ⑦ Drying chamber
- ⑧ Cyclone
- ⑨ Product vessel
- ⑩ Aspirator

- ⑪ Inlet temperature sensor
- ⑫ Outlet temperature sensor

Specifications

ADL310	
■ Performance	
Water evaporation rate	Max. approx. 1,300 ml/h
Temperature control range	40 to 200deg.C
Temperature control accuracy	±1deg.C
Dry air flow rate	Max. 0.7 m ³ /min.
Flow rate for Sample liquid feed pump	Max. 28 ml/min.
■ Structure	
Temperature controller	PID Digital temp. controller
Heater	2 kW
Aspirator	Bypass-type blower
Sample liquid feed pump	Quantitative peristaltic pump
Spray pressure gauge	Bourdon tube pressure gauge, measurement range : 0 to 0.3MPa (0 to 3kg/cm ²)
Spray nozzle	Two-liquid nozzle, 1A
■ Safety Device	
	Self diagnosis functions (Temp. abnormal), Sample feed reversion system, Nozzle orifice cleaning(Pulse jet system, Manual)
■ Standard	
Power source (50/60Hz)	AC 200/220V, single phase 16.5A/15A
External dimensions(W×D×Hmm)	580×420×1,075
Weight	Approx. 78kg
■ Accessories	
Sample liquid tube	Silicone tube 2 pcs.
■ Optional Accessories	
Drying air flow meter / Temp. recorder for inlet and outlet temp.	