

■ Spray dryer test example

Sample	Concentration	Drying condition						Results		
		Inlet temp. (°C)	Outlet temp. (°C)	Drying air flow rate (m ³ /min)	Atomizing pressure (kg/cm ²)	Sample feeding speed (g/min)	Sample quantity (g)	Sample collecting rate (%)	Drying chamber sticking rate (%)	Collecting powder particle size (μm)
Titanic acid barium	70% Slurry	280	85	0.95	0.8	78	860	94	—	20-40-75
Nitriding silicon	35% Slurry (390 cp)	250	85	1.1	1.0	34	510	73	15	5-30 (20-40)*
Zirconia	50% Slurry (280 cp)	250	88	1.0	1.2	39	1555	83	7	2-20 (20-40)*
Zirconia	30% Slurry	250	75	1.0	1.0	35	275	55	24	5-15 (20-40-80)*
Alumina	50% Slurry	250	90	1.0	1.0	34	270	58	29	5-20-50 (20-40-70)*
Titanic acid zircon acid lead	80% Slurry	275	95	1.0	0.9	119	1900	73	14	—
Zeolite	20% Slurry	280	80	1.0	0.9	33	570	52	24	5-50
Catalyst	17% Slurry	220	70	1.0	0.9	28	225	81	—	5-40
Sodium silicate	5% Solution	220	70	0.8	1.0	19	920	84	—	5-30
Protein	10% Solution (400 cp)	200	70	0.9	1.0	16	125	70	—	5-10-20
Protein	5% Solution	200	60	1.0	1.0	27	220	75	—	—

* Chamber sticking powder particle size.

■ List of model

Model	Cat. No.	Main body		Glass parts set	
		Package size (mm)	Net weight	Package size (mm)	Net weight
DL-41	212-944 (220VAC)	1210(W) × 1200(D) × 1930(H) (47 ⁵ / ₈ " × 47 ¹ / ₄ " × 76")	Approx.140kg (311.1 lbs.)	123(W) × 830(D) × 880(H) (48 ³ / ₈ " × 32 ⁵ / ₈ " × 34 ⁵ / ₈ ")	Approx.60kg (133.3 lbs.)

■ Specifications

Performance and Structure	Water evaporation rate	Max. approx. 3 l/h
	Spraying system	Two-liquid nozzle system (Dia. of orifice : 0.7mm)
	Spray/hot air contact system	Downward spray parallel flow system
	Sample liquid feed pump	Quantitative peristaltic pump, flow rate variable up to 80ml/min
	Aspirator	Bypass-type commutator blower, air flow rate variable up to 1m ³ /min
	Temperature control	Temperature control by thyristor, temperature control range : 40° to 300°C
	Heating source	Stainless steel pipe heater (2.0kW × 2pcs.)
	Drying chamber dimensions (mm)	450 (Dia.) × 1,000 (H) (17 ³ / ₄ " × 39 ³ / ₈ ") (Direct pipe part)
	Material	Drying chamber, cyclone, product vessel: Super hard borosilicate glass (other pipes are made of stainless steel and silicone rubber hose)
	Additional operating features of the nozzle	Automatic orifice cleanout (needle knocker), cleanout of any powder adhered to the tip (nozzle blower)
	Additional operating features of the body	Automatic raising and lowering of the head (for washing of the drying chamber and hot air blower)
Standard	Instrumentation	Control function: Entrance temperature, hot air flow, sample pump feed quantity, atomizing air pressure, orifice cleanout time. Meter: Temperature recorder of inlet and outlet temperatures, dry air flow meter, atomizing air pressure gauge
	Power supply	AC220V 50/60Hz, single phase, 25A
	Overall dimensions (mm)	1,060(W) × 880(D) × 1,750(H) (43 ³ / ₄ " × 34 ⁵ / ₈ " × 68 ⁷ / ₈ ")
Accessories	Weight (Net net)	Approx. 180kg (397 lbs.)
	Pump tube	6.4(O.D.)mm × 3.2(I.D.)mm × 2(L)m (1/4" × 1/8" × 78 ³ / ₄ ") 2pcs.
	Air hose	7.9(I.D.)mm × 3(L)m (1/4" × 118 ¹ / ₈ ") 1pc.
	Exhaust duct	50 (I.D.)mm × 3(L)m (2" × 118 ¹ / ₈ ") 1pc.