

# L/OC series

## Test facility for L/OC series

Pilot series  
L/OC



Please use our test facility, Ohkawara Spray & Dry Factory, for your development, quality improvement and energy saving.

## Pilot series spray dryer systems



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\*Appearance and specifications are subject to change by technical developments and improvements.



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# L/OC Series

Pilot series(L/OC Series) Spray dryers is specially designed for laboratory and pilot production for foods, pharmaceuticals, biochemicals, and nanotechnology. GMP compliance with validation documents service available for producing sample productions and R&D.

Full line up models are available for evaluate the powder properties for future production scale up.

## Laboratory to Pilot



L-8i



L-12



OC-16



OC-20

## ■ Features and Advantages for L/OC series

### 1. Broad range of application

Foods, pharmaceuticals, biochemicals, inorganic materials, new developed materials.



Soy source



Chinese medicine



Pigment



Aluminium oxide



Ferrite

### 2. High controllability

Particle size, Particle size distribution and bulk density are adjustable by changing operational conditions easily, like air, temperature and changing atomizing conditions.

### 3. Easy to wash

Clamp connection of ducts or swing bolt connection, all corner round finish inside, high grade polish inside process provides easy washing to keep it clean.

### 4. Hygienic design

(All inside and outside stainless steel constructions of drying chamber, duct and cyclones. Both rough filter and HEPA filter eliminate impurity dust over 99.97% at  $0.3 \mu\text{m}$  dust to avoid contamination.

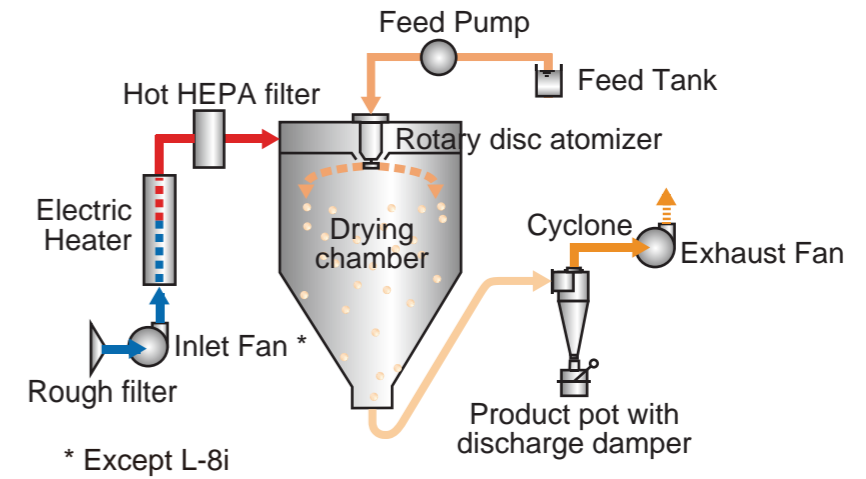
### 5. Save energy

VFD (Variable Frequency Drive) controlled fans and atomizer achieves easy to control and offers exact reproducibility.

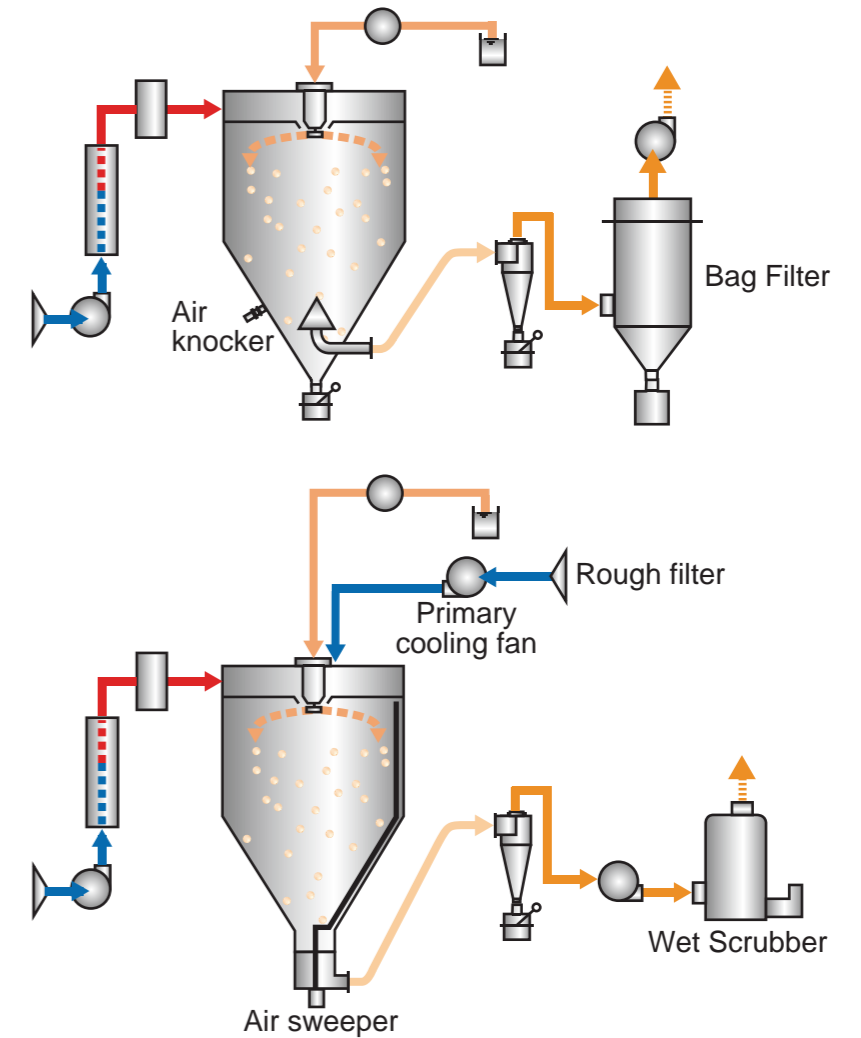
### 6. Various options

Various kinds of rotary atomizers, two fluid nozzle in co-current flow and mixed flow available, easy change of process flow to one point or two points of powder collections and dust collection system.

## ■ Standard flow



## ■ Optional flows



## ■ Rotary discs + Nozzles

Patent



M disc Zirconia pin (M type)



Kessner disc (K-type)



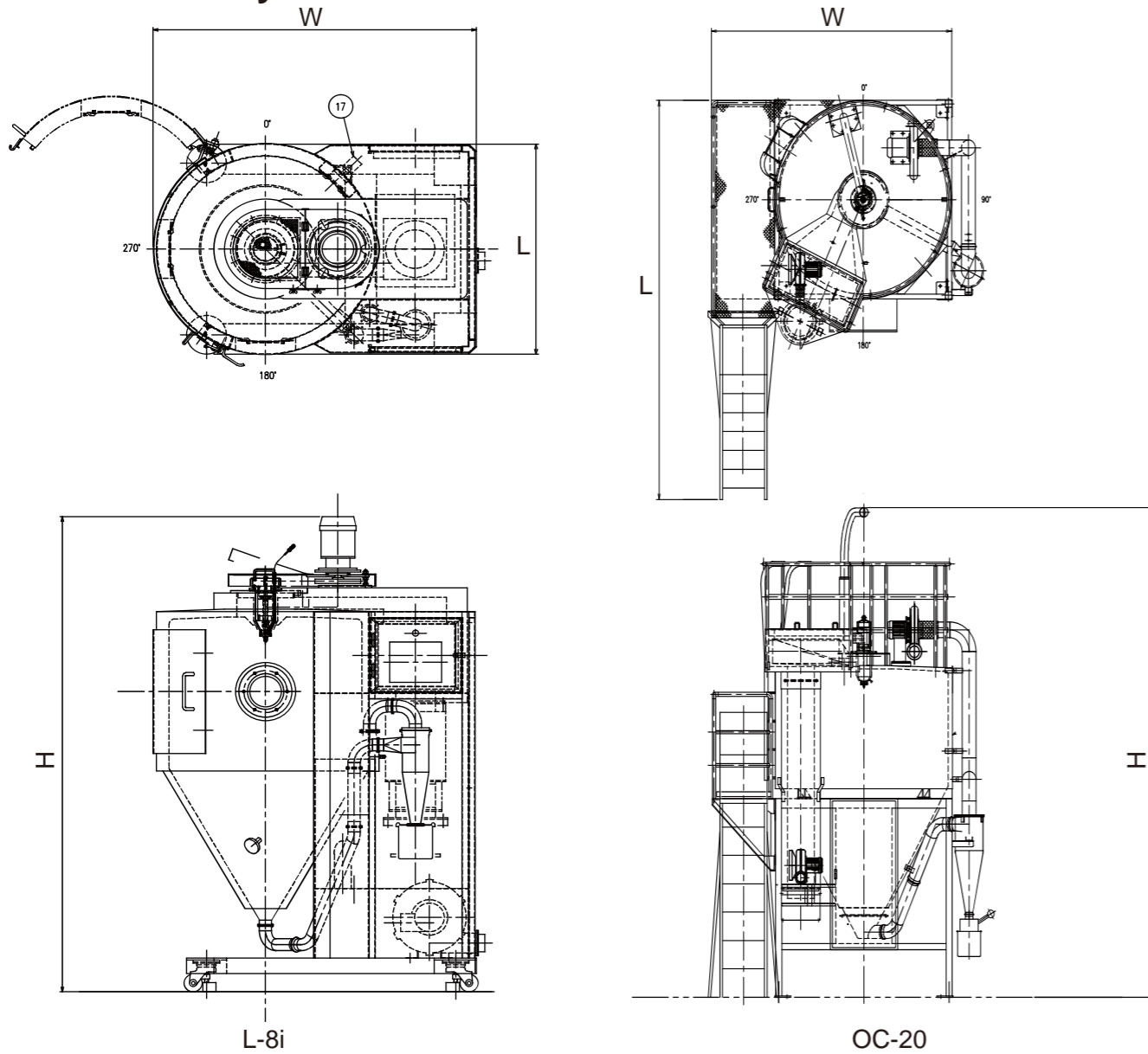
Nozzle Vane disc (VN-type)



Slit Vane disc (VS-type)

\* Two fluid nozzle, Twin jet nozzle, Pressure nozzle, and Air assisted pressure nozzle are available.

## Standard layout



## Atomizers

Full line up of rotary disc atomizers are available. Rotary disc atomizer OCA-008, OCA-022BH, belt drive with belt tightener provides silence and exact rotating speed with VFD motor. Direct drive atomizers, OCA-009 and OCA-023DG, control disc speed with high frequency motor freely without any multiplying gear or belt. And these direct drive atomizers do not require any lubrication or water to keep themselves hygienic.



OCA-009



OCA-022BH



OCA-023DG

## Standard specifications

Items	L series		OC series	
	L-8 i	L-12	OC-16	OC-20
Model				
Application	R&D	R&D Sample making	R&D Small production	Small production Product granulation
Water evaporation	3 kg/h	13 kg/h	25 kg/h	42 kg/h
Chamber diameter	dia. 800mm	dia. 1,200mm	dia. 1,600mm	dia. 2,000mm
Atomizer model	OCA-008 / 009	OCA-022BH	OCA-022BH	OCA-023DG
Atomizer disc	MC-50	MC-65	MC-65	MC-84
Rotation speed	10,000~48,000 rpm (Less than 38000rpm for regular use)	8,000~25,000 rpm	8,000~25,000 rpm	5,000~20,000 rpm
Powder collection	1 point collection at bottom of cyclone			
Feed pump type	Tube pump			
Pump capacity	6 kg/h	29 kg/h	40 kg/h	79 kg/h
Heat source	Electric heater			
Heater capacity	8.5 kW	20 kW	38 kW	60 kW
Max. inlet temp.	250°C			
Equipment	Inlet fan(*1), Rough filter, Heat-resistant HEPA filter, Cyclone, Exhaust fan			
Instrument	Temp. indicator, controller and alarm (for Inlet & Outlet), Atomizer frequency indicator, Static pressure gage for chamber(*1), Differential pressure gauge (for Air filter & Cyclone)			
Safety device	Anti-overheating device for heater			
Compressed air consumption	50 Nl/min	-	-	100 Nl/min
Out line dimensions	W1.4m x L0.95m x H1.8m	W2.5m x L1.8m x H2.6m	W2.9m x L2.4m x H3.7m	W3.3m x L3.9m x H5.2m
Out line erection weight	500 kg	900 kg	1,300 kg	1,800 kg
Options	<ul style="list-style-type: none"> <li>· Ceramic pin disc · Two fluid nozzle · Atomizer rotation speed indicator(*2)</li> <li>· Temp. recorder(*2) · Air sweeper(*1) · Air knocker · 2 points powder collection(*3)</li> <li>· Bag filter · Wet scrubber · Air compressor</li> </ul> <p>*1 Except L-8i *2 Equipped on L-8 i as standard *3 Take-up type on L-8i (Others are Low-cap type)</p>			

\*1 Condition of water evaporation rate is at 250 °C (Inlet) and 80 °C (Outlet). Outlet temp for L-8i is 100 °C

\*2 Atomizer cooling air pressure 0.01 MPa is required.

\*3 Bigger than OC-20 shall be tailor made system. Please contact us for details.