NCD is a next technology leader in the creation of **ALD** systems for **SOLAR** energy, **OLED**, and semiconductor.

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Lucida™ M100 ALD

Plasma-enhanced atomic layer deposition system for R&D applications

Applications

- Thin film process for PEALD research
- Applications of R&D

Features

- PEALD thin films with good thickness uniformity and conformal step coverage
- Advanced process kit and minimize gas supply line length for short cycle times
- Direct plasma system
- Totally Integrated process module
- Easy process control
- Load-lock system

Technical specifications

Substrate size	150~300 mm
Substrate temperature	25°C~450°C(±0.2°C) @1Torr, in wafer
Precursor sources	3, heated 2 sources
Deposition uniformity	<±2%
Footprint	2600(L) x 650(W) x 1500(H) mm (include MTB)
Deposition mechanism	Dual shower-head type
Compatibility	Clean room class 100
Control system	PC control base (Full auto)
Optional	Up to 4 heated sources
Optional	Lucida cooler (2ch)

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Lucida™ D100 ALD

Atomic layer deposition system for R&D applications

Applications

- Thin film process for ALD research : Al_2O_3, ZnO, HfO_2, ZrO_2, TiO_2 .....
- 100~200mm wafers

Benefits

- Applications of R&D.
- Very low price
- Various additional option

Features

- ALD ultra-thin films with good thickness uniformity and 100% conformal step coverage
- Advanced process kit and small-volume chamber for short cycle times
- Extremely materialize ALD Mechanism (Traveling wave method)
- Small foot print (950 x 700mm)
- Totally Integrated process module
- Easy process control
- Minimize gas supply line length

Technical specifications

Substrate size	100~200mm
Substrate temperature	25°C ~ 350°C (± 0.2°C) @ 1Torr, in wafer
Precursor sources	3, heated 2 sources and H_2O source
Deposition uniformity	<± 2%
Footprint	950 x 700mm
Deposition mechanism	Traveling wave type
Compatibility	Clean room class 100
Control system	PC control base (Full auto)
Optional	Up to 4 heated sources
Optional	Lucida cooler(2ch)

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Lucida™ GD series

High-throughput atomic layer deposition system for OLED displays

Features

- Al_2O_3 thin film encapsulation for OLED
- Al_2O_3 barrier layer for flexible substrates
- WVTR(water vapor transmission rate) of $5.3*10^{-6}$ g/m^2 day (@ 30nm Al_2O_3/PEN substrate)
- Applications of mass-production
- Industrial fully-automated production equipment
- High throughput : up to 30 panels/hour of 6G panels(1500x1850 mm^2)

Specifications

Model	Material	Wafer size (mm^2)	Thickness (nm)	Throughput (panel/hour)
Lucida ™ GD 200	Al_2O_3	370x470	30	30
Lucida ™ GD 400H	Al_2O_3	460x730	30	30
Lucida ™ GD 550Q	Al_2O_3	650x750	30	30
Lucida ™ GD 600	Al_2O_3	1500x1850	30	30

※ We could be processed that substrate sizes of a variety

Process module for Lucida™ GD series

Cluster system for Lucida™ GD series

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Lucida™ GS series

High-throughput atomic layer deposition system for surface passivation of c-Si solar cells

Features

- Al_2O_3 surface passivation of c-Si solar cells applications of mass-production
- Industrial fully-automated production equipment
- High throughput : up to 3200 wafers/hour of 156 x156mm^2
- Al_2O_3 thin films with good thickness uniformity
- Small foot print
- Totally integrated process module
- Easy process control
- Automatic cassette to cassette operation

Specifications

Model	Material	Wafer size (mm^2)	Thickness (nm)	Throughput (panel/hour)
Lucida ™ GS 200	Al_2O_3	156x156	10	〉500
Lucida ™ GS 800	Al_2O_3	156x156	10	〉1700
Lucida ™ GS 1200	Al_2O_3	156x156	10	〉2400
Lucida ™ GS 1600	Al_2O_3	156x156	10	〉3400

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Lucida™ TS series

High-throughput atomic layer deposition system for buffer layer of CIGS solar cells

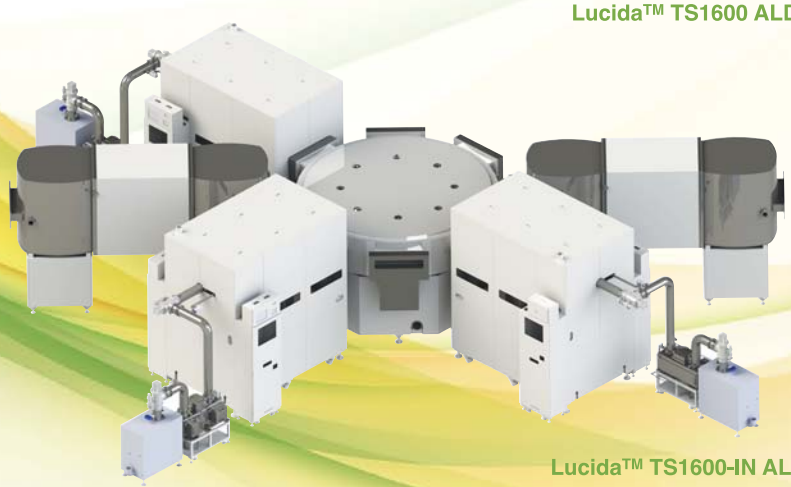
Features

- Zn(O,S) buffer layer of CIGS solar cells application of mass-production
- Industrial fully-automated production equipment
- High throughput up to 120 panels/hour of 900x1600mm ^{2}
- Zn(O,S) thin films with good thickness uniformity
- Small foot print
- Totally integrated process module
- Easy process control
- Automatic glass to glass operation

Specifications

Model	Material	Glass size (mm)	Thickness (nm)	Throughput (Panels/hr)
Lucida™ TS 1600	Zn(O,S)	900x1600	30	120 (40@1PM)
Lucida™ TS 1600-IN	Zn(O,S)	900x1600	30	120

Lucida™ TS1600 ALD system



Lucida™ TS1600-IN ALD system

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