ALD System (UltraTech)

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北京时代天启真空科技有限公司

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Savannah G2

Features

- In-Situ Ellipsometry
- In-Situ QCM
- Self Assembling Monolayers
- 2-Second Cycle Times
- Integrated Ozone
- Low Vapor Pressure Deposition
- Batch Processing
- Glove Box Integration

Technical Specifications

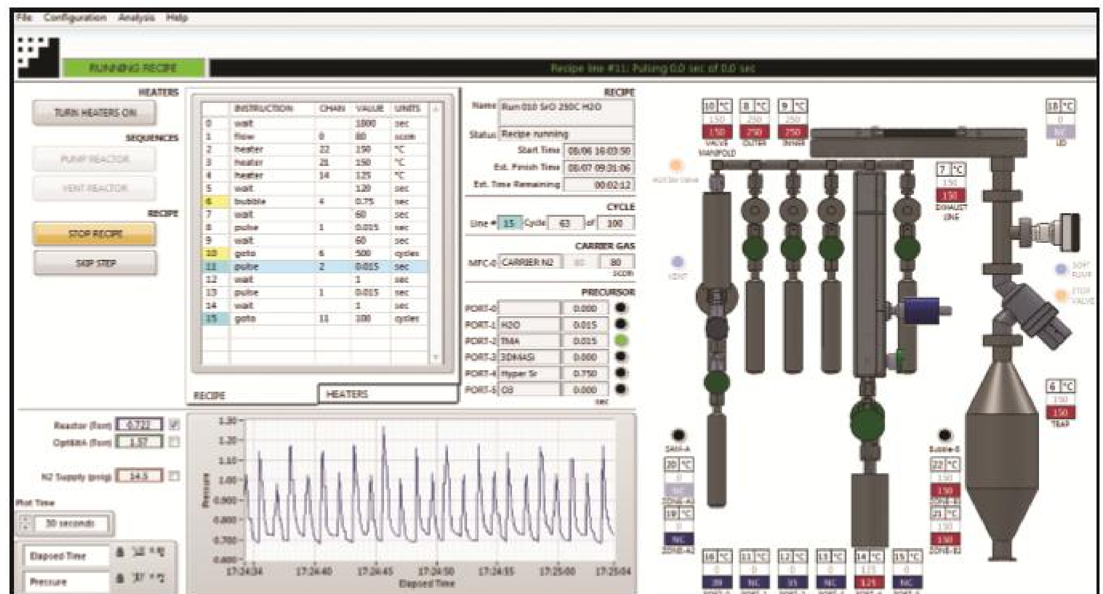
System Specifications	
Substrate Size	Savannah S100:up to 100mm
	Savannah S200:up to 200mm
	Savannah S300:up to 300mm
Dimensions (W x D x H)	Savannah S100:585 x 560 x 980mm
	Savannah S200:585 x 560 x 980mm
	Savannah S300:686 x 560 x 980mm
Cabinet	Steel with white powder coat paint with removable panels and lockable precursor door
Operational Modes	Continuous Mode™(high speed) or Exposure Mode™(ultra-high aspect ratio)
Power	115VAC or 220VAC,1500W(excluding pump)
Controls	Labview™,Windows™7,Lenovo Laptop,USB Control
Maximum Substrate Temperature	S100:RT-400℃
	S200:RT-350℃
	S300:RT-350℃
Deposition uniformity(Al2O3)	<1%(1σ)
Cycle Time	<2 seconds per cycle with Al2O3 at 200℃
Vacuum Pump	Alcatel 2021C2-14.6CFM
Compatibility	Clean room class 100 compatible
Compliance	CE,TUV,FCC
Precursor Delivery System	
Ports 2	2 lines standard, up to 6 lines available. Each line accommodates solid, liquid and gas precursors and is independently heated up to 200℃
Valves	Industry standard high speed ALD valves with 10msec response time
Precursor Cylinders	Individually heated 50 ml stainless steel cylinders, optional larger cylinders available
Carrier/Venting Gas	N2 mass flow controlled,100 SCCM
Options	

LVPD System	Low Vapor Pressure Delivery system
Ozone Generator	Integrated self contained ozone solution
Batch and 3D objects	Dome lid with wafer cassette or large objects
Glove box Interface	Integrated to allow direct loading from within a glove box
In-Situ Ellipsometry	For real time ellipsometry
In-Situ Quartz Crystal MicroBalance	For real time QCM
Self Assembling Monolayers (SAMs)	For organic surface functionalization
Particle Coating	Allows for coating of particles

ALD Films

- Oxides:Al2O3, HfO, La2O3, SiO2, TiO2, ZnO, ZrO2, Ta2O,In2O3, SnO2, Fe2O3, MnOx,Nb2O5,MgO,Er2O3,WOx,MoO3,V2O3
- Doped Oxides: AZO,ATO, ITO
- Nitrides: WN,Hf3N4,Zr3N4, AlN,TiN,NbNx
- Metals: Ru,Pt,W,Ni,Fe,Co
- Sulfides:ZnS
- Organics SAMS and MLD:FOTS,FDTS,Thiols

Sophisticated Dual Operation Controls



Easy to use recipe driven Graphical User Interface(GUI) that allows users to run either Thermal or Self Assembling Monolayer ALD Processes.

Fiji G2

Features

- Proprietary Chamber Turbo Pumping System
- Improved Plasma Design
- Ergonomic Operator Interface
- In-Situ Ellipsometry
- In-Situ Quart Crystal Microbalance
- Integrated Ozone
- Glove box Interface

Technical Specifications

System Specifications	
Operational Modes	Continuous Mode™(Traditional Thermal ALD)
	Exposure Mode™(High Aspect Ratio ALD)
	Plasma Mode™(Plasma Enhanced ALD)
Substrate Size	up to 200mm
Substrate Temperature	500℃ 200mm substrate heater standard
	800℃ 100mm substrate heater optional
Deposition uniformity	1σ uniformities
	Thermal Al_2O_3 -1.5%
	Plasma Al_2O_3 -1.5%
Precursors	4 precursor lines standard
	Up to 6 optional
	Accommodates gas, liquid, or solid precursors
	Individually heatable to 200° C
	Industry standard high speed ALD valves (10ms minimum pulse time)
	Widely available 50cc (25mL fill max) stainless steel precursor cylinders
Gases	100sccm Ar precursor carrier gas MFC
	200sccm Ar plasma gas MFC
	100sccm N_2 plasma gas MFC
	100sccm O_2 plasma gas MFC
	100sccm H_2 plasma gas MFC
Trap	Integrated, heated, thin foil ALD trap
Compatibility	Clean room class 100 compatible
Compliance	CE,TUV,FCC
Dimension F200	1600 x 715 x 1920mm
F200 with load lock	1845 x 715 x 1920mm
Power	220-240 VAC, 4200 W per reactor (excludes pump)
Control	Microsoft Windows™ 7 Laptop PC, LabView based system control
Vacuum Pump	>50CFM dry pump required
	Available or customer supplied
System Options	Spectroscopic Ellipsometer Ports

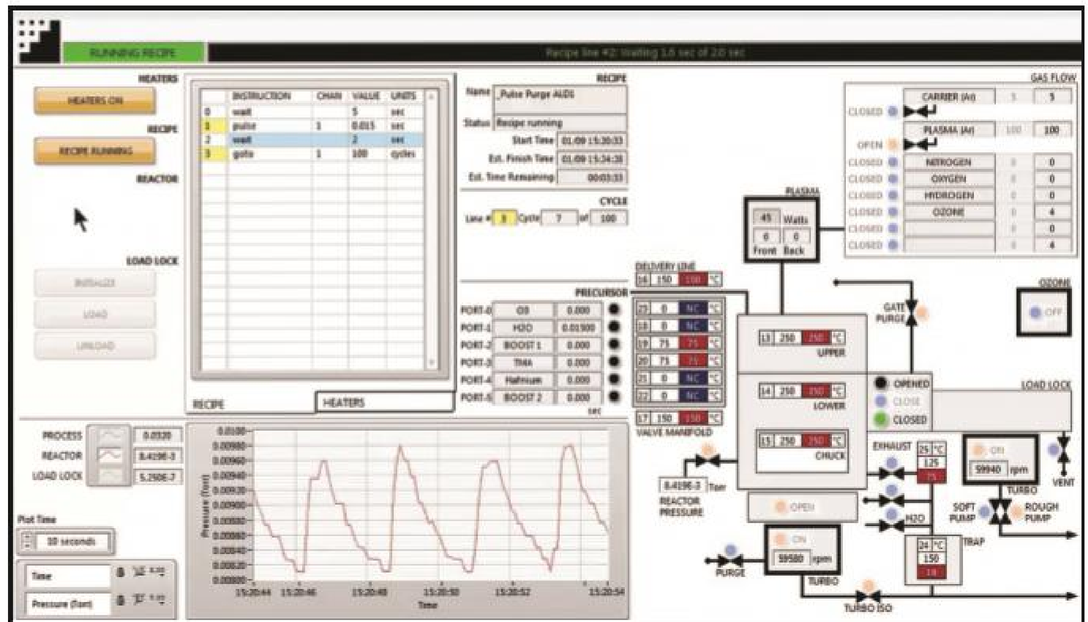
	Quartz Crystal Microbalance
	RGA Port
	Optical Emission Spectrometer
	Wafer Plus
	Ozone Generator
	Low Vapor Pressure Deposition
	Glove box Interface
	Load Lock

ALD Films

Films Deposited on Fiji Systems:

- Oxides:Al_2O_3, LaO,NiO, SiO_2, TiO_2, ZnO, ZrO_2, Ta_2O_5,SrO,InO, SnO, ITO,BaO,Nb_2O_5,MgO,Ga_2O_3,WOx,MgxZn1Ox
- Doped Films: Al:ZnO, ZnO:N
- Nitrides: InN,Hf_3N_4,GaN, AIN,TiN,SiNx
- Metals: Ru,Pt,Ni
- Other: HfSiON,SiON

Ergonomic Operator Interface



Easy to use recipe driven Graphical User Interface(GUI) that allows users to run either Thermal or Plasma assisted ALD.

Phoenix G2

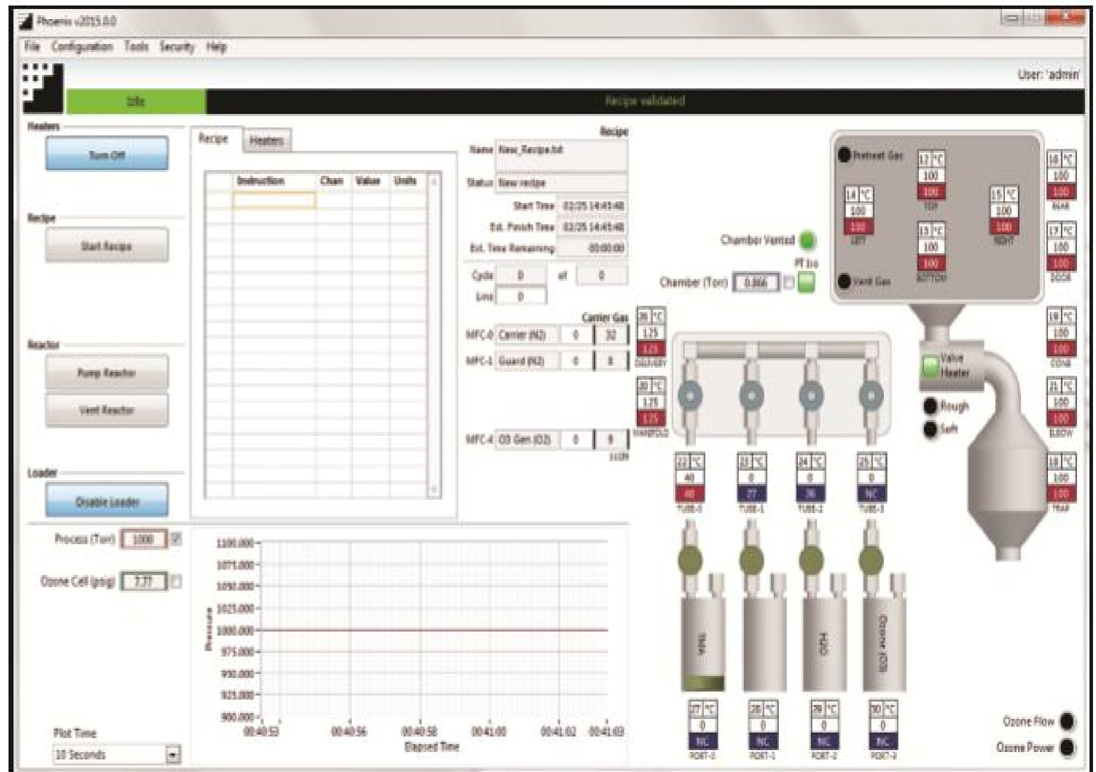
Features

- Simple and Easy to Use Interface
- Pre-loaded Recipes for a Variety of Films, Including Nanolaminates
- Large Process Chamber (up to Gen2.5) Substrates
- Many Built in Safety Features Glove box Interface

Technical Specifications

System Specifications	
Substrate Size	Up to 370 mm x 470 mm (Gen 2.5 Panels)
	100 wafers - 100 mm (cassette)
	100 wafers - 150 mm (cassette)
	100 wafers - 200 mm (cassette)
	25 wafers - 300 mm (cassette)
	Custom holders for other 3D objects
Dimensions (W x L x H)	900 mm x 1370 mm x 1700 mm
Cabinet	Vented Cabinet with smoke detection
Power	208 VAC 3 Phase, 8500 W (excluding pump)
Control	Windows™ PC
Substrate Temperature	Up to 285°C
Deposition uniformity(Al2O3)	<2%
Vacuum Pump	Dry pump ≥350 CFM
Compatibility	Clean room class 100 compatible
Precursor Delivery System	Standard 4 lines accommodate solid,liquid and gas precursors and is independently heated up to 200ºC
Valves	High Speed ALD valves
Precursor Cylinders	3.1 l cylinders or 600ml
Carrier/Venting Gas	N2 or Ar MFC flow control
Chamber Volume (L x W x H)	(50cm, 40cm,24cm)
Options	
LVPD	Low Vapor Pressure Delivery (Precursor Bubbler)
Ozone Generator	200 L/g
Glove box integration	Integrated to allow direct loading from within a glove box
Semi-Automatic Loader	Operator loaded cassettes
Automated Loader	Automatically loaded cassettes
SECS/GEM interface	Equipment to host data communications

Easy Operator Interface



Simple recipe driven Graphical User Interface(GUI) .

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