

# ALD<sup>150</sup> LE

## Atomic Layer Deposition System



**Kurt J. Lesker**<sup>®</sup>  
Company

**PROCESS EQUIPMENT**<sup>™</sup>  
DIVISION

### Applications

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- University, industrial and government lab R&D
- Electronics
- MEMS
- Energy Storage
- Solar encapsulation
- Nanophotonics
- Biomedical
- And more

### Features

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- Unique perpendicular flow design
- Multiple inlets for precursor delivery
- Open-load reactor design
- Independent substrate heater stage
- Unique heater design of source modules
- Accessible, low maintenance design
- Global service and process support
- eKlipse<sup>®</sup> control software

### Options

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- Multiple precursor delivery options
- Ozone
- Multi-technique tool integration via glovebox
- Expansion capability up to 13 precursors
- Chemical series pumping

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## Specifications

Process Chamber	Unique perpendicular flow designed reactor Two separate chamber inlets for precursor delivery Independent substrate heater stage	
Process Chamber Construction	304L Stainless Steel	
Exposure Modes	Dynamic Static Variable Residence Mode™ (VRM™)	
Precursors	Thirteen precursor sources available including Ozone	
Precursor Delivery Module Options	Flow-through Vapor	For liquid and solid phase precursor with sufficient vapor pressure
	Pulse Gas Delivery	For liquid and solid phase precursor with insufficient/low vapor pressure
	Pulse Gas Delivery	For precise, accurate, high-speed dosing of toxic gases (e.g., WF <sub>6</sub> , HCl, NH <sub>3</sub> , H <sub>2</sub> S, etc.)
System Heating **LeskerClad™	500°C Substrate heating 250°C Process chamber** 250°C Delivery lines** 200°C Valve heating** 200°C Precursor heating**	
Typical Processes	Al <sub>2</sub> O <sub>3</sub> , TiO <sub>2</sub> , SiO <sub>2</sub> , Ta <sub>2</sub> O <sub>5</sub> , HfO <sub>2</sub> , ZrO <sub>2</sub> , HZO, ZnO, AZO, HfN, TiN, GaN, Pt, Ru	
Deposition Uniformity	1σ Uniformities Thermal Al <sub>2</sub> O <sub>3</sub> – 1%	
System Control	KJLC® eKlipse™ control software (LabView based) Independent real time controller True precision ALD valve timing providing high resolution Windows 10	
Substrate Size and Type	Up to 150mm single wafer 100mm X 100mm solar Si wafers Powders and particles Porous and high aspect ratio (up to 1:2500)	
Substrate Transfer	Manual Open-load Glovebox (Single or multi-tool configuration)	
Process Module Dimensions (approx)	35.1" (862mm) wide X 39.5" (1002.7mm) deep X 41.85" (1063mm) high	
Required Power (based on options)	208-240VAC, 50-60Hz, single phase, 3-wire	
Process Pump	>14CFM chemical series recommended	
Compliance Optional**	CE, FCC, CSA**, NRTL**	
Warranty	12 months upon shipment	
Cleanroom Compatibility	Class 100	

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