

IPR2013-00066

Vacuum Evaporation  
System

Vapor Deposition  
Polymerization System

Ashing System

Etching System

Ion Implantation System

Vacuum Furnace

Roll Coater

Freeze Drying / Vacuum  
Drying System

Vacuum Distillation System

Automatic Leak Tester

Others

#### APPLICATIONS

Semiconductor Process  
(FEOL/BEOL)

Semiconductor Process  
(Non Volatile Memory)

LED Device

Power Device

Advanced Packaging  
Device

MEMS Device

Optical Film

Magnetic Device

Thin-film Lithium Ion  
Secondary Battery

LCD

OLED

Touch Panel

R&D Equipment for Display

Photovoltaic

Magnet

Automobile Parts

Wiring Materials

Capacitors

Packaging Materials

Decorative Coating

Pharmaceutical

Food Processing

Health Care

Electronics Materials

Functional Materials



This system is a single-substrate laser scribing system that is used to remove the transparent electrode (TCO) films formed on the glass substrate by the laser ablation method using the near-infrared wavelength pulse oscillating laser.

This system consists of 6 IR lasers, 6 sets of laser light collection optical system, bridge type XY stage (X-axis: lower axis, Y-axis: upper axis on bridge), substrate conveyor mechanism, dust collector, laser power measuring instrument and control systems. It is achieved high accuracy and high stability for using fiber lasers and a stage made of granite.

#### Features

- Diode coupled 6 IR lasers:  
Laser light is delivered by optical fiber and set variable pulse width
- Simple and high stability optical system
- Granite XY stage:  
High precision and minimal thermal expansion/contraction
- Individual laser positioning control:  
Every IR laser has its own Y- and Z-stage
- Automatic measurement and calibration of laser output power
- Tact time < 90 sec(ULVAC standard pattern)

#### Applications

- Thin film solar Cell (TCO Laser scribing)

#### Specifications

Substrate material	W1400 x D1100 x t=3-5mm
Tact time	< 90 sec. (ULVAC standard pattern)
Excitation	Laser Diode
Laser wavelength	About 1.06μm
Beam delivery	Optical Fiber
Beam shape	About 50-70μm circle
Number of beams	Air cooling
Cooling	Air cooling
Stage size	W2420mm x L4570mm x H2100mm
Valid stroke	X axis(upper axis): 2000mm
	Y axis(lower axis): 1260mm
	Z axis(mounted on Y stage): 50mm
Maximum speed	X:1000mm/sec
	Y:600mm/sec.
X-Y orthogonality	Below 5μm/500mm
Accuracy of repeatability positioning	Below +/-10μm

PRODUCT CATEGORY	APPLICATIONS	Vacuum Pump	Sputtering Targets	Field Service for Equipment
› Sputtering System	› Semiconductor Process (FEOL/BEOL)	› Dry Pump	› For FPD	› Field Service
› CVD System	› Semiconductor Process (Non Volatile Memory)	› Oil Rotary Pump	› For Semiconductor	› Global CIP
› Vacuum Evaporation System	› LED Device	› Mechanical Booster Pump	› For Photovoltaic	› Factory Outsourcing
› Vapor Deposition	› Power Device	› Ion Pump	› ITO Target	› Recycling / Cleaning / Reusing Resources
› Polymerization System	› Advanced Packaging Device	› Turbo Molecular Pump	› IGZO Target	› Evaporation Deposition Materials
› Ashing System	› MEMS Device	› Oil Diffusion Pump	› High Performance Materials	› Pump Maintenance Service
› Etching System	› Optical Film	› Cryo Pump	› [Ta][Nb] Sheet	› JCSS Calibration Service (Vacuum Gauge)
› Ion Implantation System	› Magnetic Device	› Titanium Getter Pump	› [Ta][Nb] Wire/Bar	› Termination of Production and Maintenance
› Vacuum Furnace	› Thin-film Lithium Ion Secondary Battery	› Vacuum Gauge	› [Ta][Nb][Zr] Reactor Vessels	› Parts Supply
› Roll Coater	› LCD	› Process Gas Monitor	› [Ta][Nb] Heat Exchanger	› Surface Treatment
› Freeze Drying / Vacuum Drying System	› OLED	› Leak Detector	› [Ta][Nb][Zr] Columns	› MEMS Foundry Service
› Vacuum Distillation System	› Touch Panel	› Thin Film	› [Ta][Nb][Zr][Ti] Coating	› Analysis Service
› Automatic Leak Tester	› R&D Equipment for Display	› Measurement/Deposition Controller	› [Ta][Nb][Zr][Ti] Pipings	› Used Equipment/Refurbish
› Others	› Photovoltaic	› Vacuum Valve	› Nano-metal Ink	
	› Magnet	› Parts for Ultra-High Vacuum		
	› Automobile Parts	› Power Supply		
	› Wiring Materials	› Transfer Robot		
	› Capacitors	› Software		
	› Packaging Materials	› Catalog Download		
	› Decorative Coating	› Drawing Data Download		
	› Pharmaceutical	› Termination of Production and Maintenance		
	› Food Processing			
	› Health Care			
	› Electronics Materials			
	› Functional Materials			
	› Aviation			
	› Power Transmission			
	› Home Appliance			

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