Small Basic Cimbi-Laser MBE system

Model:CGP-LMBE

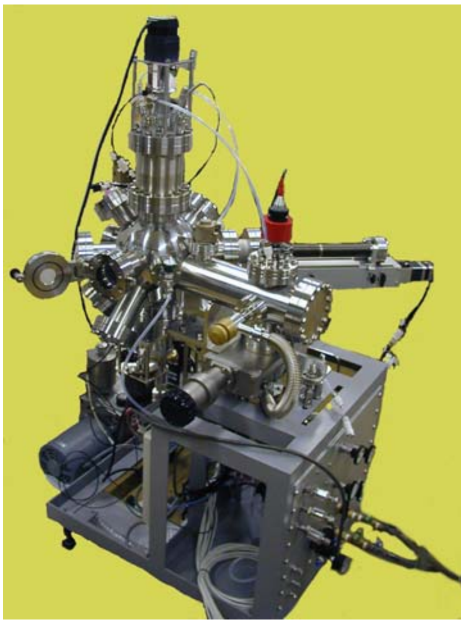
Combinatorial film deposition system featured by a compact spherical chamber

<Outline>

This apparatus enables you to deposit many samples at one time using a combinatorial mask and targets irradeated by a laser in a high vacuum.
The concept of the combinatorial film deposition is a systematic change of growth condition resulted by dividing a substrate by masking into many small regions having different growth parameters each other.This contributes to outsrandingly rapid

screening of growth conditions.

Our CGP-PLD can contain combinatorial masks each has an individual mask pattern and can moves them horizontally with high precision, A high vaccum compatibility of CGP-PLD masks substrate set-up very easy through an upper port of the main chamber.



<Feature>

1.A compact body due to a spherical high-vaccum chamber of 200-mm diam.
2.An ultimate pressure of 10^{-5}Pa (10^{-7}Torr)
3.Easy set-up combinatorial masks
4.Up to 4 targets are usable
5.Standard equipped lamp heating component masking a growth in an oxygen environment endurable

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<Specification>

1. Grouwth Chamber	Arrival pressure	10^{-5}Pa(10^{-7}Torr)
	Chamber	ca.200mm diam.Spherical

	Laser irradiation	through a synthesized quartz window(CF4.5″)
	Vaccum gauges	nude ionization(CF2.75″)for UHV pirani gauge for process monitor(CF1.33″) for exhaust status monitor(NW25)
	Process gas flow	Variable-leak valve(CF2.75″)
	Reserved ports	for observation of substrate surface or mask motion
	Target holder with revolver	Space between a target and a substrate : 50mm (assuming that thickness of a target is 5mm) Target movement : AC motor driven for target spin Stepping motor driven for target revolution Target loading : 20mm diam.×4 Flange : CF6″
		Substrate holder with 1″diam.infrared lamp-heating unit Heating temperature : 800℃ at heater surface Substrate rotation : Stepping-motor driven Substrate size : Max 15-mm diam. Power supply : PID controlled DC power supply
	Conbinatorial masks	Movement : Max 160mm stroke,stepping motor driven
	Pumps	Main pump : 70L/s TMP Fore pump : 160L/m Rotary pump Main valve : CF4.5″valve(manual operation) Bypass line : angle valve(manual operation)
	Mask control	PC connected sequential control
2. Control rack	Unified to chamber rack JIS standard rack for controllers	
3. Utilities	AC100V 1φ 30A AC200V 3φ 30A Cooling water User specified gases Compressed air	

<Option>

Encounter mask mechanisms
Ozone source(or ozonizer component)
Pyrometer
Laser for ablation Nd:YAG （3ω 355nm）
Laser for ablation Excimer （KrF 248nm）
Optics component and optical box

●Specifications may subject to change for improvement without notice.

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