LASER HEATING SYSTEM

UHV Laser Heating Manipulator

LASER HEATER - 200

- Laser power: 200W
- Laser wavelength: 980nm
- Substrate size: Standard 10x10mm (other size upon request)
- Heating temperature more than 1200°C (Fully oxygen compatible)
- ±1°C temperature stability
- PID temperature control
- XYZR 4-axis movement
- 360° continuous rotation and (optional: 5° substrate tilt)
- Fan and Water cooling system
- Pneumatic substrate shutter
- Real-time temperature monitor by pyrometer (single wavelength, can monitor T > 260°C)
- State-of-the-art and easy operation computer software control
- Compatible with all UHV systems
- Customizable
Designing a high temperature heater for UHV thin-film deposition systems which can work in oxygen-rich atmospheres is not easy. Conventional heating materials and mechanisms 1) generate additional vapor pressure from its heating component materials which limits the achievable UHV condition, and oxidize its heating components which consequently deteriorate the heating material and process quality.

AdNaNoTek's Laser heating system is developed as a perfect solution for heating your sample for UHV thin-layer deposition in oxygen-rich atmosphere. It is easy-to-use, compact, customizable, and has fast and localized heating mechanism. It is equipped with a high speed pyrometer to monitor the temperature, and is equipped with system control software that automatically control the laser heating parameters and processes. AdNaNoTek's Laser Heating system is very suitable for laser oxide epitaxy techniques.

AdNaNoTek’s Laser Heater can heat the substrate with well focus beam, such that, only the targeted area will be heated. The mechanism with a small distance from the plate stay at a relatively low temperature, reducing the outgassing from nearby surfaces. Can heat substrates effectively up to 2-inch area. In addition, the system's support tube remains cool even after 10 hours of operation. No overheating of laser system upon using for long period of time.

AdNaNotek’s Laser Controller combines number of leading technologies such as PID temperature control, infrared pyrometer for temperature monitoring of substrate, and RS232 communication port for remote control. Temperature monitor and alarm for laser diode module.

Customized manipulators or substrate holders are available for replacing the traditional manipulator (substrate holder)

We excel in manufacturing of fully customizable UHV systems, such as:

- Pulsed Laser Deposition System (PLD), Molecular Beam Epitaxy System (MBE), Magnetron Sputtering, E-Beam Evaporator, Ion Beam Deposition System (IBD), Customized UHV Systems, Integrated UHV Systems, etc

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