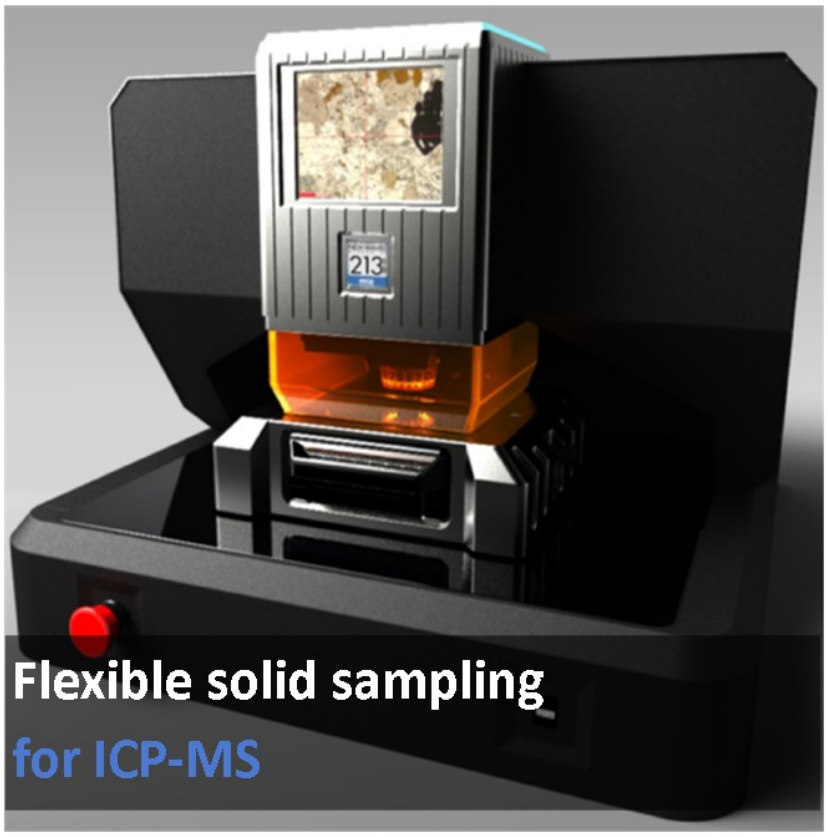
NEW WAVE RESEARCH
a division of esi

NWR213

The leading solid state laser ablation system



Laser Ablation for ICP-MS

ESI's NWR213 combines New Wave Research's experience in laser ablation with leading edge technology to create the ultimate LA-ICP-MS experience.

The Industry's Gold Standard

- Unmatched HD main video and touch screen wide angle navigation
- 100mm x 100mm, high performance ablation chamber as standard
- ESI-manufactured laser source - internally homogenized and optically attenuated for long life and unmatched stability at 213nm
- Optional rotating XY shutter for square and rectangular ablations
- Optional infinitely variable apertures (IVA) spot size selection between 4 and 110µm
- Alternative ablation cells including Truline™

3rd Generation Laser Ablation Platform

NWR213 is the 3rd generation, high-performance Nd:YAG deep UV (213nm) based laser ablation system from ESI's New Wave Research Division, that provides flat craters and high energy absorption for the analysis of opaque and transparent materials alike. NWR213 combines the ease-of-use of a solid-state laser with the high-efficiency sampling of deep-UV wavelengths.

The NWR213 utilizes the state-of-the-art Tempest 213nm laser, specifically designed and manufactured by ESI's New Wave Research Division to have all of the characteristics necessary for laser ablation. The Tempest 213nm is engineered so that the beam from the fundamental (1064nm) to the final (213nm) output is completely flat-topped to generate the flattest craters possible from a solid state laser.

The NWR213 is supplied with an internal control PC and pre-loaded with class leading ActiveView™ control software. ActiveView™ provides complete control of all laser ablation parameters, multi-experiment programming, sample viewing, stage positioning, gas control, and bi-directional triggering of the ICP-MS to provide a fully automated analysis. Now with ESI's unique "layering concept" including image importation, and autofocus capability.

NEW WAVE RESEARCH
a division of esi

NWR213

Specifications summary

Site Requirements	
Temperature	70°F ± 10°F (21°C ± 3°C)
Relative Humidity	20% - 65% non condensing
Power Requirements	100-110V (AC), 3A, 50/60 Hz 220-240V (AC), 3A, 50/60 Hz

Additional Options
150mm x 150mm, high performance Large Format Cell
Additional software controlled mass flow controller for N_2 addition
Alternative ablation cell technology including TruLine™ technology
Flexible service contract models
Infinitely variable, aperture imaged spot selection (IVA)
Rotating XY shutter

Performance Specification	
Laser	ESI designed and built Nd:YAG @ 213nm
Repetition rate	1-20Hz
Fluence	>25J/cm^2 at the sample surface
Spot sizes	13 spots between 4µm and 250µm
Ablation chamber	High performance, 100mm x 100mm
Beam profile	Internally homogenized
XY Stage	100mm x100mm travel, <1µm resolution
Mass flow controller	Fully integrated and software controlled
Triggering	Bi-directional for full automation
Primary viewing system	True, high resolution digital camera with 15X to 60X (objective to camera mag.) < 2 micron optical resolution
Secondary viewing system	25mm field of view navigational optics with touch screen technology
Lighting	3 high intensity, LED based and software controlled.
Polarizer	Software controlled rotating cross-polarizer
Software	Class leading ActiveView™ software

General Specification	
Safety Classification	Fully Interlocked, Class-1 system*
Warranty	12 month
Dimensions	81cm x 61cm x 48cm (D x W x H)
Weight	200lb (91Kg)
Cooling	Closed loop distilled water system
Platform	Completely stable “bridge” design

**No known hazards to eyes or skin during normal operation. Service operation may require access to hazardous embedded lasers.*