



# NWR193

FOR ALL THE MOST  
CHALLENGING  
APPLICATIONS

## Features

Reliable Coherent ExciStar XS laser

Rugged frame design

Infinitely Variable Aperture (IVA)

Rotating XY Shutter (XYR)

ActiveView2 Software



**Elemental Scientific**  
LASERS  
INNOVATION TO ILLUMINATE

Accurate and precise results on even  
the most challenging sample types

Guaranteed for 1 billion shots

Optimum stability and mobility

Spot size selection in 1  $\mu\text{m}$  increments and  
rotating rectangular craters for greater  
flexibility

Intuitive, feature rich laser ablation control  
software designed around your workflows  
with improved ICP-MS compatibility

Multi-layered viewing for outstanding sample  
navigation and quick experimental setup

# NWR193

## Specifications summary

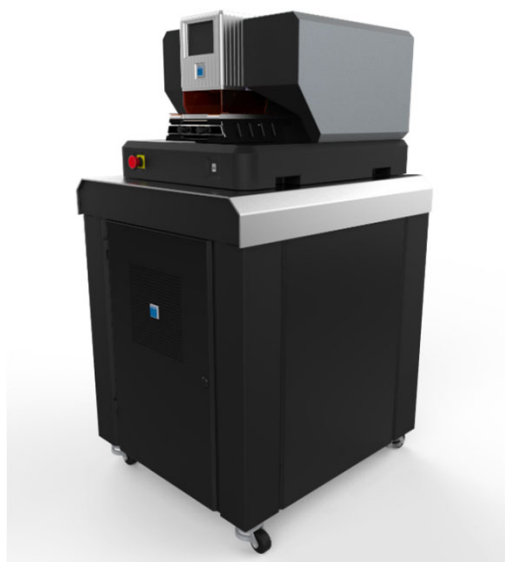


### Performance Specifications

Laser	Coherent ExciStar XS excimer laser @193 nm
Beam profile	Flat-top beam profile from proprietary diffuser technology
Repetition rate	1-200 Hz (500 Hz optional)
Laser attenuation	Closed-loop, high resolution attenuation of beam energy at the fundamental wavelength with ~1000 positions
Fluence	>15 J/cm <sup>2</sup> at the sample surface measured during sample ablation
Spot sizes	Aperture Imaged: 13 circular spots 1-150 µm
Ablation chamber	Two Volume ablation chamber - TwoVol1
XY Stage	100 mm x 100 mm, < 0.16 µm resolution and < 1 µm stage accuracy using ImageLock
Mass flow controllers	Standard: 0 – 1 L/min He MFC
Triggering	Bi-directional hard triggering Software plug-ins with ICP-MS systems for greater control and automation
Primary viewing system	Full HD 1080p digital camera with 15x to 60x objective-to-camera magnification
Secondary viewing system	25 mm field of view for macro navigation
Lighting	3 high-intensity, LED light sources (coaxial, ring and transmitted) Fully software controlled
Polarizer	Software-controlled rotating cross polarizer
Software	Class leading ActiveView2 software

### General Specifications

Safety classification	Fully interlocked Class 1 system
Warranty	12 months
Dimensions	89 cm x 79 cm x 150 cm (35" x 31" x 59") DxWxH
Weight	270 kg (600 lb)
Cooling	Air Cooled
Platform	Ultra-stable bridge design on Ultra Compact cart
Gas handling	Onboard gas storage and handling



### Site Requirements

Temperature	21°C ±3°C (70°F ±10°F)
Relative humidity	20% - 65% non-condensing
Power requirements	100-110V (AC), 6A, 50/60Hz 220-240V (AC), 3A, 50/60Hz

### Additional Options

TwoVol2 sample chamber	Significantly higher performance in precision, accuracy, purging and washout - Available as 100mm or 150mm
CryoCell	Liquid N <sub>2</sub> cryocell – operates down to -100°C
IVA	Infinitely variable aperture – gives circular spot sizes from 1µm to 150µm in 1µm steps
XYR	X and Y rotation aperture – gives square and rectangular ablations, independently adjustable in 1 µm steps in X and Y, plus rotational adjustment in 1° increments
Mass flow controllers	Optional: 0 – 100 mL/min N <sub>2</sub> MFC Optional: 0 – 1 L/min Ar MFC
DCI	Dual concentric injector – ultra-fast washout for single-shot and imaging analysis
Signal smoothers	Glass bulb signal smoother and Sentinel signal smoother
Warranty extension and service contract	Available on request

