



NWR193

FOR ALL THE MOST
CHALLENGING
APPLICATIONS

Features

Reliable Coherent ExciStar 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 3 billion shots*

Optimum stability and mobility

Spot size selection in 1 μm increments and
rotating rectangular craters for greater
flexibility

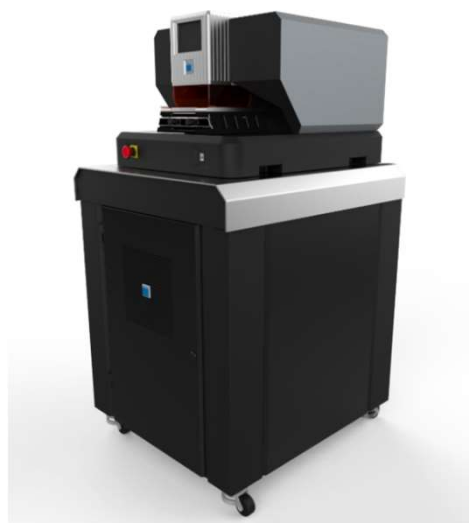
Intuitive, feature rich laser ablation control
software designed around your workflows
with improved ICP-MS compatibility

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

**or 2 years, whichever comes first*

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Specifications summary



Performance Specifications

Laser	Coherent ExciStar excimer laser @193 nm and 7 ns pulse width
Beam profile	Flat-top beam profile from proprietary diffuser technology
Repetition rate	1-200 Hz (500 and 1000 Hz optional) in 1 Hz increments
Laser attenuation	Closed-loop, high resolution attenuation of beam energy at the fundamental wavelength with ~1000 positions
Fluence	< 1 to > 15 J/cm ² at the sample surface measured during sample ablation
Spot sizes	Infinitely Variable Aperture: Circular spot sizes 1-150 μm in 1 μm steps
Ablation chamber	Two Volume ablation chamber – TwoVol2 (100 or 150 mm)
XY Stage	100 mm x 100 mm, < 0.16 μm resolution and < 1 μm stage accuracy using ImageLock
Mass flow controllers	Standard: 0 – 2 L/min He MFC
Triggering and plugins	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 (4.3x magnification)
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	24 months
Dimensions	89 cm x 79 cm x 150 cm (35" x 31" x 59") D x W x H
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 ±2 °C (70 °F ±6 °F)
Relative humidity	5-60% non-condensing
Power requirements	100-110 V (AC), 6 A, 50/60 Hz 220-240 V (AC), 3 A, 50/60 Hz

Additional Options

Ablation Cell	Custom ablation cell and stage options
TwoVol3 sample chamber	Ultra-fast two volume ablation chamber (< 1 ms peak widths) with switchable ablation cups (imaging and analytical) for application versatility
CryoCell	Liquid N ₂ cryocell – operates down to -100°C
Demag	A demagnification device that provides two software selectable magnification factors, increasing spot sizes up to 240 μm
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 ₂ 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

