



NWR193HE

HIGH ENERGY

LASER ABLATION FOR ICPMS

THE MOST ADVANCED EXCIMER SYSTEM

Features

COMPex Pro 102 laser source

Flexible beam delivery options

TwoVol2 ablation cell

ActiveView2 Software

High energy excimer-based laser ablation system ideal for opaque and highly transmissive materials alike

High energy 193 nm readily couples with even the most transparent sample types

Energy densities $> 50 \text{ Jcm}^{-2}$ measured during sample ablation

Infinitely Variable Aperture (IVA) and dual magnification factors enable 2-300 μm spot sizes in 1 μm increments

Unmatched spatial reproducibility provides accuracy and precision

Developed with emphasis on efficient workflow and throughput

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Specifications summary



Performance Specifications

Laser	193 nm ComPexPro 102@193 nm < 20 ns pulse width
Repetition rate	1-20 Hz
Fluence	> 50 J/cm ² , 1-160 μm at the sample surface measured during sample ablation
Spot sizes	Infinitely variable between 1 μm and 300 μm, > 13 J/cm ² – multiple magnification factors
Ablation chamber	100 mm x 100 mm, TwoVol2
Beam profile	Externally homogenized
XY Stage	High Precision, 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
ICPMS triggering	Bi-directional for full automation
Primary viewing system	True, high resolution digital camera with 15 x-60 x (objective to camera mag.) < 2 μm optical resolution
Secondary viewing system	25 mm field of view navigational optics with touch screen technology
Lighting	3 high-intensity, LED based and software controlled Options: ring, coaxial and transmitted
Polarizer	Software-controlled rotating cross polarizer
Software	Class leading ActiveView2 software

General Specifications

Safety classification	Fully interlocked Class 1 system
Warranty	12 months
Dimensions	81 cm x 130 cm x 148 cm (D x W x H)
Weight	273 kg (600 lb)
Cooling	Air Cooled laser source
Platform	Completely stable "bridge" design and solid steel frame
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), 3A, 50/60 Hz 220-240V (AC), 3A, 50/60 Hz

Additional Options

Additional software-controlled mass flow controllers	N ₂ addition
Alternative ablation cell technology	150 mm x 150 mm TwoVol2 SelfSeal with NWRauto CryoCell
Higher frequency	100 Hz with water cooling
Rotating XY shutter	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
Service contract models	Flexible
Ablation chamber inserts	Range of application specific inserts from pucks to thin sections (floating tray option for everything else). Customizable inserts available upon request.

