

# UP266MACRO

## Large Beam Laser Ablation System



### Applications

- Bulk and inclusion analysis of metals
- Forensic analysis of plastics, ceramics, paints, glass
- Biological tissues, tree rings and gels
- Sulfate, Sulfite analysis
- Environmental air filters, wear metals, soils analysis



750 µm spot with 30 µm spot raster, in NIST 610 glass

### The UP266MACRO Advantage

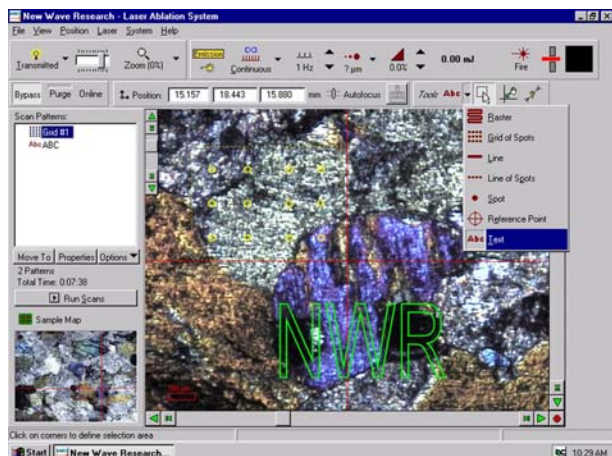
- The UP266MACRO laser ablation system is designed to couple with ALL but the most UV transmissive sample matrices.
- With energy densities of more than  $15\text{J}/\text{cm}^2$  ( $5.0\text{GW}/\text{cm}^2$ ), the UP266MACRO can effectively ablate glass, steel, noble metals, plastics, ceramics and biological matrices.
- Select from 12 pre-calibrated, aperture imaged spot sizes from  $30\text{ }\mu\text{m}$  to  $750\text{ }\mu\text{m}$  including **VERI™** large and **VERI\*** small spots extending the range from  $20\text{ }\mu\text{m}$  to  $1100\text{ }\mu\text{m}$
- Large volume ablation is particularly well suited to ICP-OES analysis. OES detection limits of less than  $1\text{ }\mu\text{g}/\text{g}$  (1ppm), in the solid, are possible
- UP266MACRO system software operates under all Windows platforms ('98, NT, 2000, XP). Integrated control of sample analyses is a standard design consideration

\* Vernier Extended Range Increments

### The UP266 MACRO Laser Ablation System

New Wave™ Research introduces the UP266MACRO, a large beam, 266 nm, UV Nd-YAG laser ablation system specifically designed for ICP-OES and ICP-MS solid sampling analysis. This general purpose, expandable, laser ablation device incorporates a  $30\text{ }\mu\text{m}$  to  $750\text{ }\mu\text{m}$  aperture imaged beam delivery system.

The control software offers a wide variety of ablation methods such as spot ablation for depth profiling, line scanning for lateral analysis and raster scanning for bulk analysis. Laboratory productivity and sample throughput is enhanced through software control of X-Y stages, laser parameters and external triggering of sequential sampling.



New Wave™ Research Laser Ablation Software



## Physical Parameters

Length	25" / 64 mm
Width	18" / 46 mm
Height	22" / 56 mm
Weight	130 lb. / 59 kg

## Site Requirements

Temperature	70° ± 10° F (21° ± 5° C)
Relative Humidity	20 – 80% non-condensing
Voltage	100 - 240 VAC, 50/60 Hz
Power	1000 Watts



At left is a 1 mm crater in NIST 610 glass. With the UP266MACRO, 266nm, short UV ablation has broken the 1000 µm barrier.

## System Configuration

The system includes a high-magnification video system, micron precision X-Y stages, manual Z focus, F/O illumination, ICP/ICP-MS sample chamber and Merchantek control software for semi-automated and automated operation.

The system's software package controls all laser parameters, sample viewing and stage positioning and has many unique features such as sample mosaic navigation, alphanumeric character marking and re-coordination of sample analysis after removal and subsequent replacement of sample into chamber.

## Features

- 4th harmonic, Nd:YAG laser with sufficient energy density to ablate both opaque and transparent materials
- Aperture imaged beam sizes from 30 µm to 750 µm, with a vernier-adjustable, extended range increments (VERI) spots from 20 µm to 1100 µm.
- Quick change sample cell holder (52mm ID X 52mm deep), designed to accept standard 1.00" and 1.75" diameter samples, and large irregular specimens.
- Sample Mosaic Navigation function for up to 50 mm virtual FOV (field of view) of samples
- Built-in laser energy detector for real-time measurement of energy and energy density.
- Pulse repetition rates from 1 to 10Hz – continuous pulsing, single shot and burst modes.
- An integrated Class 1 system with full computer control of system functions. Interfaces with all major brands of ICP-MS and ICP instruments

## Warranty

One year – call for limited warranty statement

### USA

New Wave™ Research, Inc.  
48660 Kato Road  
Fremont CA. 94538-7339  
Tel: 510-249-1550  
Tel: 800-566-1743  
Fax: 510-249-1551  
Email: [Lasers@new-wave.com](mailto:Lasers@new-wave.com)

### Japan

New Wave™ Research, KK  
5F Chojiya Building, 1-36-4,  
Shinjuku-ku, Shinjuku  
Tokyo, 160-0022 Japan  
Tel: +81-3-3351-0131  
Fax: +81-3-3351-0121  
Email: [NewWaveKK@new-wave.com](mailto:NewWaveKK@new-wave.com)

### Taiwan

New Wave™ Research G. C. Co., Ltd.  
No. 58-3, XingShan Rd.,  
Neihu Dist.,  
Taipei 114 Taiwan  
Tel: 886-2-8792-7585  
Fax: 886-2-8792-7584  
Email: [NewWaveGC@new-wave.com](mailto:NewWaveGC@new-wave.com)

### Europe

New Wave™ Research Co., Ltd.  
8 Avro Court, Emine Business Park  
Huntingdon, Cambs  
England PE29 6XS, UK  
Tel: 44-(0)1480 456566  
Fax: 44-(0)1480 456545  
Email: [NewWaveEU@new-wave.com](mailto:NewWaveEU@new-wave.com)

### China

New Wave™ Research (China) Co., Ltd.  
Rm. 1102, 11/F, Jiaying Mansion,  
No. 877, Dongfang Rd.  
Shanghai 200122, China  
Tel: 86-21-5058-7785  
Fax: 86-21-5058-7786  
Email: [NewWaveCN@new-wave.com](mailto:NewWaveCN@new-wave.com)