

# SOLIS-500

## Solids Introduction System

The SOLIS-500, a compact laser ablation system, is compatible with homogeneous ceramic and metal sample types. The SOLIS-500 is geared toward bulk analysis of these samples with the utmost simplicity for maximum throughput with minimal user demands. The SOLIS-500 creates a fine aerosol that is liberated from the solid sample surface during ablation with a Nd: YAG laser operating at the fundamental wavelength of 1064 nm.



### INNOVATIVE

The SOLIS-500 incorporates a unique mechanism for sample positioning, rastering, and targeting. The design of the rastering mechanism provides precise movement of the laser rather than translating the sampling stage. Thus, the sample platform remains stationary during the ablation process. With the laser targeting device and several sample holders, it is quick and easy to analyze homogeneous ceramic samples and most metals of different shapes and sizes.

### EASE OF USE

Sample setup and analysis takes only minutes since the system contains no viewing optics to adjust. The user simply places a sample in the holder and presses a key to seal the sampling platform. All gas lines are purged using an automatic interlock system requiring no operator intervention. SOLIS-500 incorporates a custom designed sample cell that allows thorough mixing of the fine sample aerosol and allows for efficient transfer to the ICP-AES or ICP-MS.

### FLEXIBLE

Several key parameters can be adjusted via a one-touch keypad control to improve count rate and precision. These parameters include: nebulizer gas flow, raster speed, laser energy and pulse repetition rate. The control system is designed for simple and safe operation.

### Technical Specifications

**Scan rate:** Variable 10, 20, 50  $\mu\text{m}/\text{sec}$ .

**Spot size:** 750  $\mu\text{m}$

**Enclosure:** Class 1 with safety interlocks

**Laser head:** Nd: YAG 0164 nm

**Pulse to pulse stability (%RMS):** 1%

**Energy per pulse:** 50 mJ variable

**Energy drift:** <5%

**Warm-up time:** <10 sec.

**Polarization:** Horizontal

**Repetition rate:** 1, 2, 5, 10, 20 Hz

**PRF optimization:** 20 Hz

**Pulse width:** <6 nsec.

**Pulse timing stability:**  $\pm 20$  nsec.

**Duty cycle:** Continuous

**Power requirement:** 100-240 VAC

**Dimensions (H x W x D):** 58.4 cm x 25.4 cm x 30.5 cm  
(23" x 10" x 12")

**Weight:** 30 kg (66 lbs)

**Warranty:** 12 month limited

LASER ABLATION

CETAC

