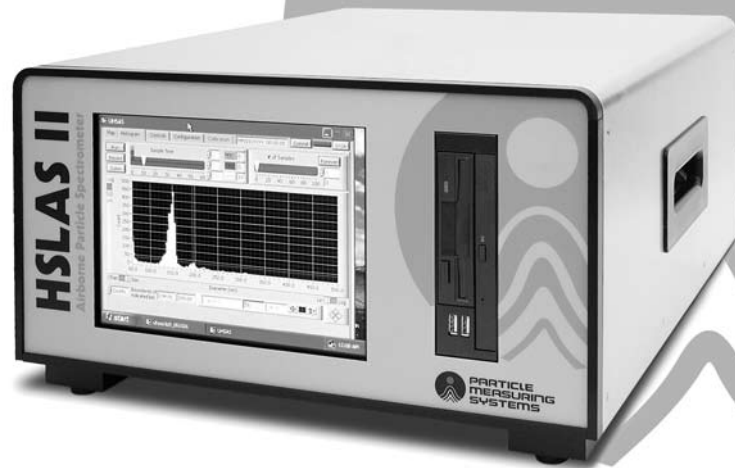


# HSLAS II and LAS-X II

## Airborne-Particle Spectrometers

HSLAS II and LAS-X II laser spectrometers combine ultra-high sensitivity and great resolution with unprecedented flexibility. The user can select both the number and particle sizes for up to 100 channels, along with any flow rate from 10-95 sccm or 1-10 sccm with optional configurations.

An internal Windows®-based PC controls the spectrometer, providing all the familiar features associated with your personal PC. A 30 GB hard drive, USB keyboard with touchpad, and a 10" color LCD display are included, along with Ethernet and USB ports, 3.5" and CD drives, plus on-board Excel software for data analysis.



### BENEFITS

#### Ultra-High Sensitivity, plus Great Resolution

- Counts particles down to 0.06  $\mu\text{m}$  for HSLAS II
- Counts particles down to 0.09  $\mu\text{m}$  for LAS-X II
- Size resolution <5% (typically 2.5% for particles at 0.1  $\mu\text{m}$ )

#### Easy to Use

- On-board Windows-based PC simplifies operation
- Print high quality reports immediately from PC or network
- Transfer data quickly via Ethernet, CD/disk drive, or USB storage device
- Analyze your data inside unit with on-board Excel

#### Versatile

- User configures up to 100 particle size channels
- User selects flow rate from 10-95 sccm
- Allows "one point" calibration for optimal accuracy in one region of interest
- Use in both clean and extremely dirty environments

### FEATURES

- Up to 100 particle size channels - User-selectable
- Flow rates from 10-95 sccm - User-selectable
- Optional flowrate 1-10 sccm - User-selectable
- Dynamic range, HSLAS II: 0.06 to 1.0 microns
- Dynamic range, LAS-X II: 0.09 to 7.5 microns
- Spectrometer built into Windows-based PC
- 10" LCD display, USB keyboard, 30 GB hard disk
- Ethernet, USB, drives for 3.5" disk and CD

### APPLICATIONS

- Aerosol research
- HEPA/ULPA filter testing and characterization
- Chemical process monitoring and control
- Pharmaceutical research and manufacturing
- Powders and food products research
- Inhalation toxicology research
- Combustion and emission source research
- Nebulization analysis
- Coalescence and nucleation research
- Disk drive development and research

Without measurement, there is no control.

# Specifications

	HSLAS II	LAS-X II
<b>Size range:</b>	0.06 to 1.0 $\mu\text{m}$	0.09 to 7.5 $\mu\text{m}$
<b>Primary laser:</b>	Solid state, diode-pumped Nd <sup>3+</sup> :YLF 1054 nm, 1 kW intercavity power	Helium-Neon (HeNe) gas laser; 633 nm; ~ 40W intracavity power
<b>Secondary, pumping laser:</b>	Diode, 798 nm, 1 W	None required
<b>Number of channels:</b>	User-selectable, up to 100	
<b>Flow rate:</b>	User-selectable, 10-95 sccm; $\pm$ 5% accuracy	
<b>Calibration particles:</b>	NIST traceable	
<b>Gases supplied:</b>	Designed for use with air. Do NOT use with pressurized, explosive, corrosive, toxic, or other hazardous gases.	
<b>Zero count:</b>	<1 per 5 min. (JIS standard)	
<b>Counting efficiency:</b>	$\geq$ 50% for smallest channel	
<b>Maximum concentration 3,000 counts/ sec (5% coincidence error):</b>	At 100 sccm: 50,940,000 per cu. ft. At 10 sccm: 509,400,000 per cu. ft.	
<b>Sizing accuracy:</b>	Error 5%	
<b>Resolution:</b>	Error $\leq$ 5% of particle diameter at 0.1 microns (typically error $\leq$ 2.5%)	
<b>Display options:</b>	Histogram of differential/cumulative counts; Log/linear scales for X and Y axis; Channel number/size	
<b>Operating system &amp; software:</b>	Windows XP; executable vi (virtual instrument) based on LabView 7.1 - generated executable; Excel loaded on system	
<b>Data storage:</b>	Stores to CSV files to Windows; 30 GB of hard disk storage	
<b>Key software features:</b>	User-selectable number and boundaries of channels; User-selectable flow rate; Direct storage of CSV files to hard disk; On-board Excel for analysis	
<b>Communication modes:</b>	10/100 Ethernet (RJ45 female plug) for input/output; RS-232 for output only (9-pin D connector); USB port, CD and 3.5" disk drives	
<b>External surface:</b>	Stainless steel top and sides, aluminum front and back panels	
<b>Dimensions:</b>	22 x 17 x 10 inches (56 x 43 x 25 cm)	
<b>Weight:</b>	58 lbs. (26 kg)	53 lbs. (24 kg)
<b>Power:</b>	100-240 VAC; 50/60 Hz; 200 watts required	
<b>Operating conditions:</b>	18-30°C; 0-95% RH, non-condensing; sea level - 4 km	10-30°C; 0-95% RH, non-condensing; sea level - 4 km
<b>Standard Accessories:</b>	USB keyboard with touchpad, Tygon® tubing (1.0 M, 1/16-inch ID, 1/8-inch OD), zero count filter, operator's manual, power cord (US plug)	
<b>Factory Options:</b>	1-10 sccm flowmeter; Control via remote PC; Rack mounting	

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Tygon® is a registered trademark of the Norton Company.  
Particle Measuring Systems, Inc. reserves the right to change specifications without notice.

## AUTHORIZED REPRESENTATIVE



Registration applies to the Boulder, Colorado facility



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