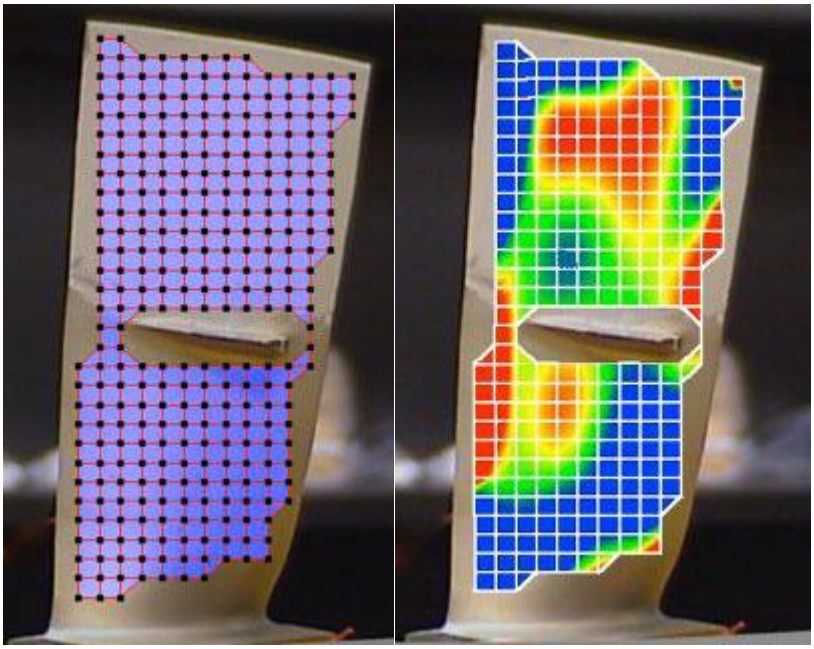
OMS LaserScan LS01 Scanning Vibrometer Features

The OMS LaserScan LS01 Scanning Laser Vibrometer is a compact, portable, competitively priced, and easy-to-use precision instrument for whole field non-destructive testing and non-contact vibration measurement of any surface. The LaserScan LS01 uses the patented LaserPoint engine together with computer controlled scanning mirrors and a comprehensive software package to quickly produce vibration maps of any surface. The system is optimized for measuring distances from about half a meter to five meters, so there is no need for adjustments, lens accessories, or object treatment, thus ensuring the highest level of measurement accuracy.

- Compact, Portable System
- Programmable Scan
- No Beam Focusing or Surface Treatment Required
- Heterodyne Detection for High Measurement Sensitivity
- Large Variety of Data Analysis and Filtering Options
- 3D Animation and Visualization of Results
- Easy-to-Use Point and Measure Operation

OMS LaserScan LS01 Scanning Vibrometer Specifications

The OMS LaserScan LS01 scanning vibrometer is based on a patented electro-optical configuration developed by MetroLaser. The system consists of a portable laser sensor head and electronic controller. The laser sensor head includes a laser, frequency modulator, photo-detector, color CCD camera, and two computer-controlled scanning mirrors. The electronic controller has both a demodulated velocity output and a 10.7 MHz frequency modulated signal output. The front of the controller has a signal strength indicator, two selectable velocity ranges and an array of low pass filter options. A comprehensive software package, including modal analysis, is available. The software registers the user-selected target, controls the mirrors, performs dithering if needed, collects and analyzes data, and displays 2D and 3D animations.



Velocity Range

5 µm/s to 800 mm/s

Vibration Frequency Range

0.1 Hz to 20 kHz

Working Distance

.5 m to 5 m

Optics

Collimated (No Focusing Needed)

Surface Reflectivity Enhancement

Typically None Required

Signal Output

Analog Velocity and 10.7 MHz FM Outputs

Dimensions

Laser Head: 36 x 25 x 18 cm

Electronic Controller: 43 x 33 x 10 cm (standard 19-in rack)

Weight

Laser Head: 10 kg

Electronic Controller: 6.2 kg

Low Pass Filters

1,2,5,10,20 kHz

Output Voltage (max)

± 10 Volts

Laser

780 nm, <15mW, Class IIIb

650 nm, <1mW, Class II

Scan Range

± 20° each axis

Beam Size

1mm diameter

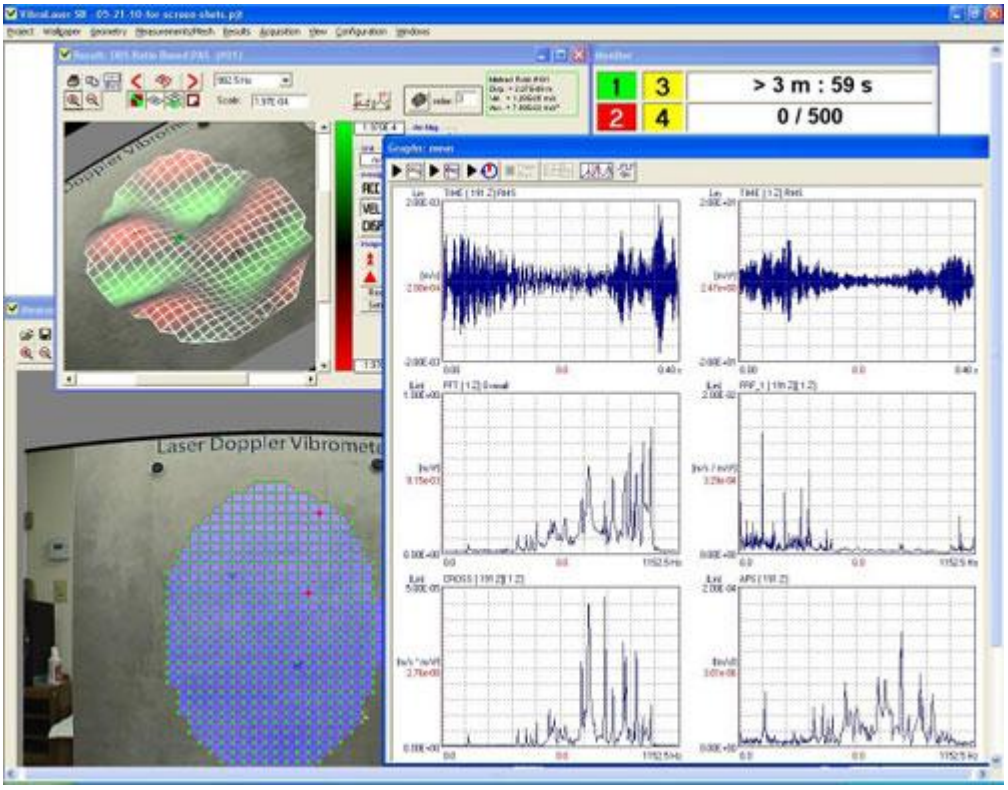
Power Requirement

110V/220V

OMS LaserScan LS01 Scanning Vibrometer Software

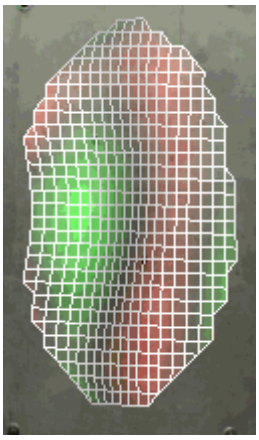
The OMS LaserScan software includes all of the modules required for a complete vibration measurement.

- Video Camera and Frame Grabber
- Measurement Point Generator and Editor
- FFT Analyzer and Signal Generator
- Laser Beam Control
- Operation Deflection Shape Analysis
- 2-D and 3-D Animations
- Optional Integrated Modal Analysis Package



LaserScan Software Screenshot

The SLDV software works with standard desktops or laptops under Windows XP or Windows 7. An office version of the software is also provided for data analysis and presentations outside of the test environment.



LaserScan
Plate Tilt

The results are available as time records, FFT spectra, Frequency Response Functions (FRF), Operation Deflection Shapes (ODS), mode shapes, and eigenvalues. The data can be exported in several file formats, including Universal File Format (UFF), and the animations can be exported as AVI videos.