

miniLDV™

A Miniature Laser Doppler Velocimeter

The miniLDV is ideal for industrial and research applications and takes less than one hour to set up. MSE's miniLDV requires no alignment or calibration by the user, so no previous experience is necessary.

ADVANTAGES OF THE MINILDV:

- Self-contained
- No alignment needed
- Calibration done at the factory
- No water cooling required
- Makes accurate measurement of fluids of varying temperature, pressure, and density
- Computer controlled 1, 2, and 3-axis traversing system
- 2D and 3D automated profile measurement
- Battery operated option
- Waterproof and temperature resistant housing option
- Frequency shifting feature allows measurement of direction along with speed.

APPLICATIONS INCLUDE:

- Fluid mechanics, turbulence, oceanography, and atmosphere studies
- Micro channels
- Wind, water, oil tunnels and channels
- Surface speed measurements
- Refrigeration air curtain
- Drag reduction measurements
- Speed of boats, ships, sea bearing vessels



The miniLDV probe, the size of a small flashlight, is self contained and permanently aligned; no calibration required by the user. The probe contains a laser, miniature beam shaping optics, receiving and detection optics.



The miniLDV system includes a miniLDV probe, driver electronics, band-pass filter, and BP-miniLDV acquisition hardware and processing software (computer and traverses are optional).



The user-friendly interface of the Burst Processor software compliments the probe's ease of setup.

MEASUREMENT SPECIFICATIONS	
Velocity range	1 mm/sec to 300 m/sec
Repeatability	0.1%
Accuracy	99.7% typical

PROBE VOLUME	
Size (air) (x by y by z)	30 by 60 by 200 μm to 100 by 200 by 1200 μm (depends on standoff distance)
Standoff distance (air)	1.30, 1.97, 3.94, 5.91, or 9.45 inches (33, 50, 100, 150, or 240 mm)

PROBE SPECIFICATIONS	
Probe weight	250g
Dimensions	1.25" (32 mm) diameter, 6.5" (165 mm) long

LASER SPECIFICATIONS	
Laser power	60 mW
Wavelength	660nm
Laser type	Class IIIb

OPERATING PARAMETERS	
Temperature	0 to 65°C
Pressure	Up to 35 bar
PC requirements	32-bit PCI slot, Windows 2000, Intel Pentium 4

OPTIONAL FEATURES	
Water resistant housing	
High pressure & temperature housing	
Traversing stage for profile measurements	
Battery operated	
1-D, 2-D, and 3-D systems	

POWER SUPPLY	
110 Volt (standard)	
220 Volt (optional)	
12 Volt battery (optional)	

U.S. Patent No. 6,654,102



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