

2D miniLDV™

Integrated 2D Miniature Laser Doppler Velocimeter

The 2D miniLDV incorporates two 1D probes with frequency shifting into a single unit with permanently co-located probe volumes. It is ideal for research and commercial applications. Setting up takes less than one hour because MSE's miniLDV probes require no alignment or calibration by the user.

ADVANTAGES OF THE 2D MINI-LDV:

- Self-contained
- Factory sealed
- Co-located probe volumes
- No alignment needed
- Calibration done at the factory
- Frequency shifting on both components
- No water cooling required
- 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

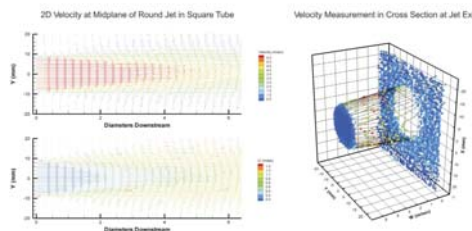
APPLICATIONS INCLUDE:

- Fluid mechanics, aerodynamics, turbulence, oceanography, and atmosphere studies
- Wind, water, oil tunnels and channels

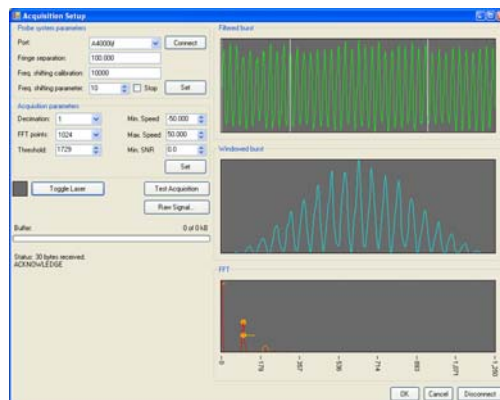


The 2D miniLDV probe is extremely compact, self contained, and permanently aligned; no calibration or alignment by the user is required. The probe contains two high power lasers, miniature beam shaping optics, and receiving and detection optics.

2D Flow Mapping with miniLDV™



The 2D miniLDV System includes the 2D miniLDV probe, dual Processing Engines, and a multidimensional version of MSE's Burst Processor Acquisition Manager software. With the optional computerized traverses, setting up a flow-mapping experiment for unattended acquisition is a matter of minutes, not hours.



The interface of the acquisition software complements the probe's ease of use.

MEASUREMENT SPECIFICATIONS	
Velocity range	-50 to 300 m/sec
Repeatability	0.1%
Accuracy	99.7% or better

PROBE VOLUME	
Size (air) (x by y by z)	20 by 40 by 100 μ m to 100 by 200 by 1200 μ m (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	1.5 x 2.2 x 7 inches 35 x 55 x 180 mm

LASER SPECIFICATIONS	
Laser power	2 x 80 mW
Wavelength	660 and 785 nm
Laser type	Class IIIb

OPERATING PARAMETERS	
Temperature	0 to 65°C
Pressure	Atmospheric
PC requirements	Laptop or PC

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

POWER SUPPLY	
12 VDC power supply	
12 Volt battery (optional)	

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