

# microV™

## A Unique Time-of-Flight Micro-Optical Velocimeter

The microV is about the size of a pen and requires no calibration or alignment. It was designed for applications where close-range flow measurement and precision positioning are required. The sensor can operate in environments where hot wire anemometers are difficult or impossible to use, such as two-phase flows, temperature varying flows, low speed flows, and high vibration.



*The microV is the smallest non-intrusive flow velocity sensor available in the industry.*

### ADVANTAGES OF THE MICROV:

- Reliable, accurate, rugged
- Extremely compact
- No alignment needed
- No calibration needed
- Makes accurate measurement of fluids of varying temperature, pressure, and density
- Can measure flow speed and flow direction
- Computer controlled 1-D traversing system
- Automated profile measurement
- Battery operated option
- Waterproof and temperature resistant housing



*The microV System consists of a microV probe, driver electronics, and BP-microV acquisition hardware and processing software (computer and traverses are optional).*

### APPLICATIONS INCLUDE:

- Sensors embedded into flow models for precise positioning
- Fluid mechanics, turbulence, oceanography, and atmosphere studies
- Micro channels
- Wind, water, and oil tunnels and channels
- Speed of boats, ships, sea bearing vessels



*The microV probe is easy to incorporate into flow models with its small size, simple geometry, and rugged construction.*

MEASUREMENT SPECIFICATIONS	
Velocity range	Nearly 0 to 100 m/sec
Repeatability	0.1%
Accuracy	99.7% typical

PROBE VOLUME	
Size (air) (x by y by z)	200 by 100 by 300 $\mu\text{m}$
Standoff distance (air)	0.29 inches (7.4 mm)

PROBE SPECIFICATIONS	
Probe weight	25g
Dimensions	0.35" (9 mm) diameter, 1" (25.4 mm) or 2.95" (75 mm) long

LASER SPECIFICATIONS	
Laser power	7 mW (in probe volume)
Wavelength	658nm
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 or better

OPTIONAL FEATURES	
Traversing stage for profile measurements	
Battery operated	
Integrated system housing (for flow model integration)	
Steel-jacketed cable	

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

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