

# 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.

### 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

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



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



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

MEASUREMENT SPECIFICATIONS	
Velocity range	-100 to 100 m/sec
Repeatability	99.8%
Accuracy	99.7% typical

PROBE VOLUME	
PV dimensions (x by y by z)	200 x 100 x 300 $\mu\text{m}$
Standoff distance (air/water)	7.4 / 10 mm 0.29 / 0.39 inches

PROBE SPECIFICATIONS	
Probe weight	25 g
Dimensions	9 (dia) x 25.4 mm 0.35 (dia) x 1 inch

LASER SPECIFICATIONS	
Laser power	110 mW
Wavelength	658 nm
Laser type	Class IIIb

OPERATING PARAMETERS	
Temperature	0 to 55°C
Pressure	Up to 1 bar
PC requirements	Laptop or PC

OPTIONAL FEATURES	
Micro-traversing stage for profile measurements	
Integrated system housing (for flow model integration)	
Steel-jacketed cable	

POWER SUPPLY	
12 VDC Universal	

One or more of the following U.S. Patents apply: No. 6,654,102, 6,580,503, 6,608,668, 6,717,172, 6,956,230

V201511



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