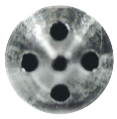
CONVENTIONAL PROBES

We provide complete flow measurement systems that are used in aerospace, automotive, turbomachinery, wind turbine, wind tunnel testing, and other measurement applications around the world.

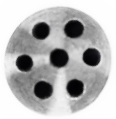
Conventional Multi-Hole Probes are proficient in measuring flow speed and direction with high accuracy. These fundamental flow measurement tools can be manufactured in multiple configurations and geometries including straight, L-shaped, cobra and eccentric ferrule racetrack geometries, with conical, faceted, or hemispherical tips.

A complete flow data system is available by pairing our Multi-Hole Probe with our data acquisition system and our AeroFlow Data Reduction software. When the probe is inserted into the flow, the pressures measured at each port are interpreted by our pressure-to-velocity reduction software to report magnitude and direction of the flow velocity vector with respect to the probe, as well as static and total pressure.

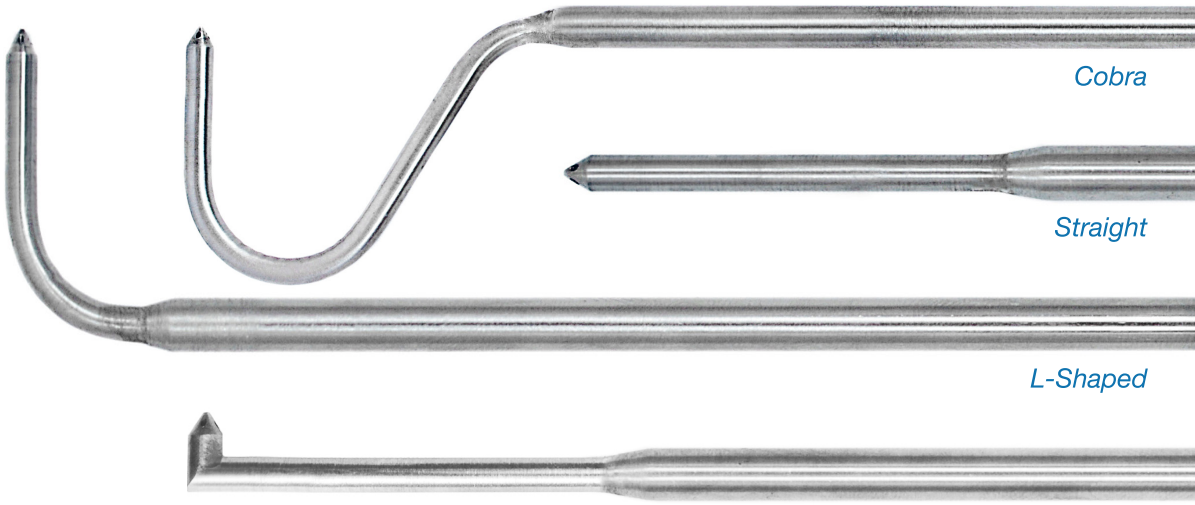
Three-Hole



Five-Hole



Seven-Hole



FEATURES & CAPABILITIES

- Tip Diameters as Small as 1.59 mm
- Temperature Ratings up to 500 C
- Probe Calibrations from 5 m/s to Mach 2.0
- 2000 Calibration Points
- NIST-Traceable Calibrations and Specialized Calibrations Available
- Custom Engineering Solutions Available
- Average Measured Angular Deviation of <1°
- Average Measured Velocity Deviations of 1% or ± m/s

AEROPROBE corporation

Global Supplier of Flow Measurement Systems

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FLOW MEASUREMENT SYSTEM

Complete system solutions to challenging and unique flow measurement problems.

FLOW MEASUREMENT INSTRUMENTS

Our Multi-Hole Probes are suitable for a wide variety of applications and can be custom designed for your specific application. Small, accurate, and robust, these probes measure velocity magnitudes and direction, as well as static and total pressure. A conventional Multi-Hole Probe is comprised of a cylindrical body with one, three, five, or seven holes at its tip.

CALIBRATION & SERVICES

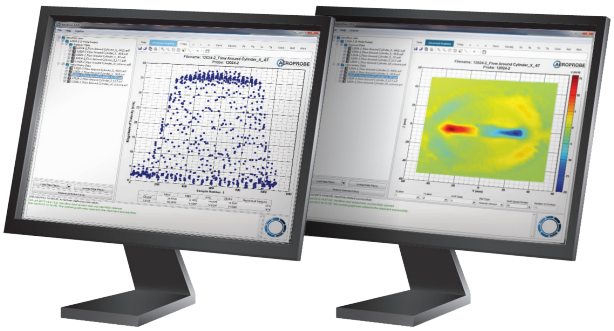
Probe calibrations offer high accuracy and define the relationship between the measured probe port pressures and the actual velocity vector sensed by the probe and the pressure transducers. The probe is placed in a known flow field and rotated to 2000 discrete points. Our calibration wind tunnels are thoroughly characterized free jets, configured to allow continuous flow at 5 m/s to Mach 2.0. We can also recommend a calibration schedule for any probe and application.

DATA ACQUISITION

To obtain accurate data acquisition, pneumatic tubing is connected from the ports of our Multi-Hole Probe to the pressure measurement system. Our systems can support a variety of industrial pressure scanners and we design custom transducer systems for unique measurement applications.

AEROFLOW SOFTWARE

AeroFlow transforms test-pressures obtained from a Multi-Hole Probe into three-dimensional velocity vectors using our advanced reduction algorithms. This user-friendly, streamlined software package is a Windows-based program that yields flow velocities within ±1% or ±1 m/s error and flow direction within ±1°. Graphs of the reduction results are automatically generated and the advanced graphics package enables contour plotting of the multi-dimensional and time series data.



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