



FAST RESPONSE PROBES



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PRODUCT ABSTRACT

Engineering Flow-Measurement Solutions

Unique challenges. Quality solutions.

Aeroprobe has extended its flow measurement expertise into the unsteady regime with its line of Fast Response Probes. Available with frequency responses up to 5000 Hz, the Fast Response Probes are perfectly suited for a wide variety of applications including profiling unsteady wakes behind stationary or moving components in flow; characterizing turbulence and vorticity levels in pipes, compressor flow channels or other enclosed locations; and actively measuring dynamic flow separation and reattachment.

Aeroprobe's Fast Response Probes and pressure-to-velocity reduction software measure and report Static and Total pressure, in addition to velocity components and other parameters. These probes can be used when velocity components are less important than unsteady measurement of pressures.



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INNOVATIVE TECHNOLOGY

Aeroprobe's Fast Response Probes are capable and flexible for virtually any unsteady measurement application. Extremely small flow structures can be measured; like our conventional pressure probes, the Fast Response Probes are available with tip diameters down to 1.6mm, in straight and L-shaped configurations. Fast response probes are available in Pitot, 3-hole, 5-hole and 7-hole port configurations, and Aeroprobe engineers can assist in determining what probe configuration is best suited for any measurement application.

Fast Response probes contain sensors, amplifiers and power conditioning circuitry to provide accurate, low-noise measurements in both laboratory and application implementations. Aeroprobe offers a variety of analog and digital hardware to support unsteady measurements, whatever the requirements.



CAPABILITIES

Tip diameters as small as 1.6mm

Temperature Ratings to 1200C

Average Measured Angular Deviation of $<1^\circ$

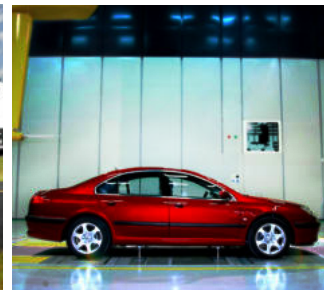
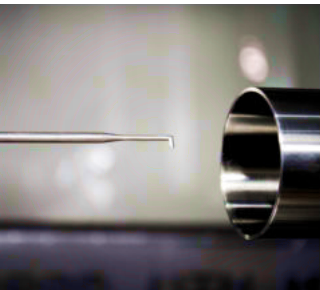
Frequency Response up to 4.5 kHz

Average Measured Velocity Deviation of $\pm 1\%$ or ± 1 m/s (whichever is larger) **

Probe Calibrations from 5 m/s to Mach 2.0

Acoustic calibrations are performed to avoid signal attenuation at high frequencies

** Reported probe calibration accuracies are based on the measured error values for a comprehensive set of test points collected in Aeroprobe's wind tunnel facilities. Flow environments exist where expected errors could be larger. Contact Aeroprobe for more information.



ABOUT AEROPROBE



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Aeroprobe provides air data measurement systems to aerospace, automotive, turbomachinery, wind turbine, and wind tunnel testing industries around the world. Aeroprobe's air data systems for unmanned aircraft provide real time air speed, angle of attack and angle of sideslip for improved flight performance. Turnkey systems include instrumentation for measurement, hardware for data collection, and software for data reduction, analysis and visualization. High temperature probes operate in flows up to 1200°C. Omniprobes, featuring a 300° flow angle range, are capable of measuring reversed flow. Fast response probes provide a frequency response exceeding 4 KHz. Rake configurations allow for simultaneous multi-point, unsteady measurements. The company conducts international business through a network of over 20 distributors.