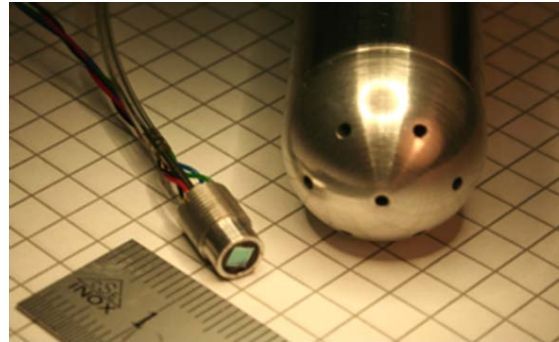


## Model FRAP-7S-10, -20 Fast-Response Aerodynamic Probe – 7 Sensors

- Unsteady 3-D flowfield measurements
- High flow acceptance angle
- High sensitivity
- Non-isotropic turbulence
- Fully compatible with LSc's turnkey system



The Fast-Response Aerodynamic Probe – 7 Sensors (FRAP-7S) is designed for unsteady 3-dimensional flowfield measurements. Among the FRAP probes, the FRAP-7S offers the largest flow acceptance angle as well as the highest sensitivity for low dynamic head application.

The hemispherical probe tip is available with a diameter of 10mm or 20mm, and is equipped with 7 encapsulated piezo-resistive pressure sensors operated in a constant current mode. It measures flow parameters such as flow angles, total and static pressure, Mach number as well as non-isotropic turbulence intensities. The probe is also capable of measuring the flow total and static temperature up to a frequency of 1Hz, thus enabling the derivation of the flow 3-dimensional velocity field.

The probes are delivered fully calibrated over the intended temperature and pressure range of operation. The FRAP-HT can be used up to a flow total temperature of 120° and has a  $\pm 60^\circ$  flow angle measurement range. The aerodynamic calibration curves and coefficients are available from 15m/s up to Mach 0.8. The probe is fully compatible with LSc's turn key measurement system (see: Fast-Response Aerodynamic Probe Turn Key Measurement System product sheet)

### General Specifications:

- **Probe tip diameters: 10 or 20mm**
- **Pressure ranges: 0-2bar or  $\pm 100$ mbar**
- **Aerodynamic calibration range: 15m/s up to Mach 0.8**
- **Calibration Temperature range: 10°C – 120°C**
- **Flow angle range:  $\pm 60^\circ$**
- **Pressure sensitivity: 2.5 or 98mV/mbar**
- **Measurement bandwidth: 3KHz**
- **Unsteady flow quantities: flow angles, total and static pressures, Mach number, non isotropic turbulence intensity**
- **Steady total and static temperature**