Model FRAP-HT
Fast-Response Aerodynamic Probe – High Temperature

- Unsteady 3-D flowfield measurements
- Highest operating temperature
- High measurement bandwidth
- Miniature size
- Fully compatible with LSc's turnkey system

The Fast-Response Aerodynamic Probe – High Temperature (FRAP-HT) is designed for unsteady 3-dimensionnal flowfield measurements. The FRAP-HT is a robust measurement tool used routinely used in many industrial or academic facilities with high flow total temperature requirements.

The probe tip has a diameter of 2.5mm and is equipped with 2 encapsulated piezo-resistive pressure sensors operated in a constant current mode. By rotating the probe around its stem, the probe is used in a virtual 4-sensor mode similar to a 4-hole probe. It measures flow parameters such as flow angles, total and static pressure, Mach number as well as the streamwise and 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-dimensionnal velocity field.

The probes are delivered fully calibrated over the intended temperature and pressure range of operation. The FRAP-HT can be used without cooling up to a flow total temperature of 220° and has a ±30° flow angle range. The aerodynamic calibration curves and coefficients are available from 20m/s up to Mach 0.8.

General Specifications:

- **Probe tip diameters: 2.5mm**
- **Measurement bandwidth: 25KHz**
- **Aerodynamic calibration range: 20m/s up to Mach 0.8**
- **Calibration Temperature range: 10°C – 220°C**
- **Flow angle range: yaw = ±30°, -24° ≤ pitch ≤ 30°**
- **Unsteady flow quantities: flow angles, total and static pressures, Mach number, streamwise and isotropic turbulence intensity**
- **Steady total and static temperature**

Limmat Scientific AG Industriestrasse 7 CH-6300 Zug
info@limmatscientific.ch www.limmatscientific.ch