

FlexInst Scientific

flexQCM

Defining the future of QCM with Dissipation monitoring



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Sensors and sample handling system

- **Sensors:** 5 MHz, 14 mm diameter, polished, AT-cut, gold electrodes or any quartz sensor up to 15MHz resonance frequency
- **Internal volume:** Total $\sim 150 \mu\text{l}$
- **Type of measurements:** Flow, stagnant liquid, gas flow measurements
- **Closed cell materials:** Viton O-ring, titanium grade 2, teflon tubing
- **Cleaning:** All parts can be cleaned in an ultrasonic bath
- **Open cell module:** Supported as an option
- **Temperature range:** 10°C to 110°C - Stability $< \pm 0.01^{\circ}\text{C}$
- **Number of sensors:** 1,2 sensors supported

Frequency and dissipation characteristics

- **Digital Phase locked loop(PLL) based frequency shift and dissipation measurement**
- **Frequency range:** 20 kHz-15 MHz
- **Output data rate:** 1000 data points per second, very fast response
- **Typical noise peak to peak:** $< 10\text{mHz}$ in air and $< 100\text{mHz}$ in liquid with digital PLL
- **Measurements:** Simultaneous frequency shift and dissipation measurement
- **Mass sensitivity:** $< 1\text{ng}/\text{cm}^2$
- **PC requirements:** USB 2.0, Windows or Linux
- **Labview, Matlab support:** Labview, Matlab controls can be supported