

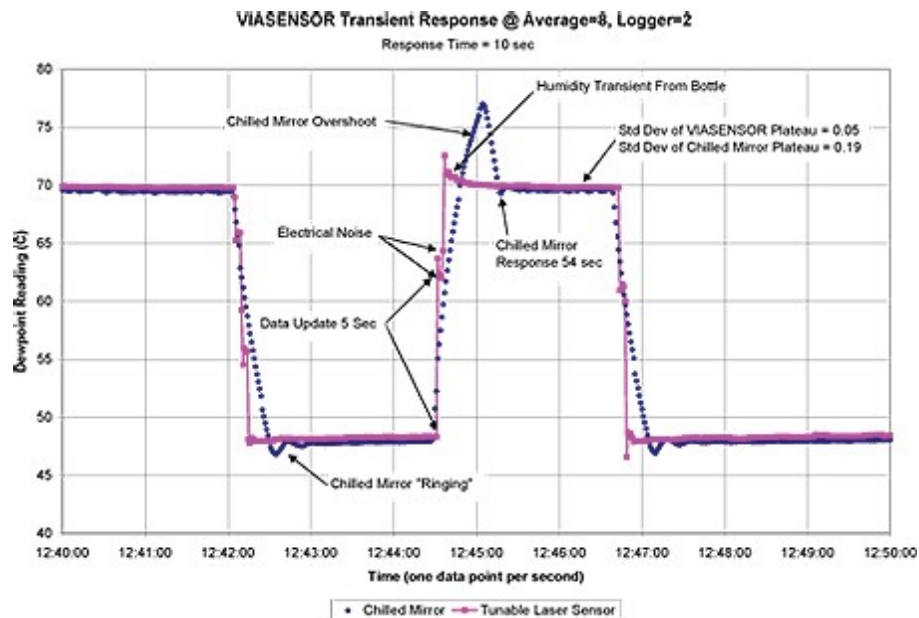


Real-Time In-Line Humidity Analyzer

The ViaSensor™ HS-1000 analyzer provides real-time, fast-response, direct measurements of water vapor in situ. The device uses a tunable diode laser for near-IR light absorption spectroscopy. The tunable laser is used to pinpoint spectral regions where water absorbs light strongly while other materials absorb weakly at best. Thus the HS-1000 yields direct quantitative measurements of water vapor present in the test cell without interferences from other chemicals. The relatively small (4 cm³) chamber allows for very fast response (<2 seconds) effectively independent of flow rate and condensation. No mirrors to clean or realign means 99.99% uptime for unmatched dependability.

Benefits

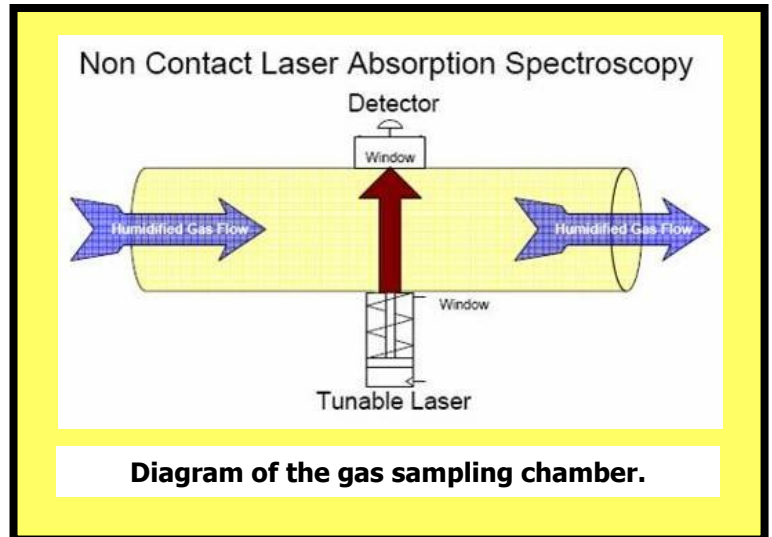
- ❑ Allows user to experiment confidently over a wide variety of conditions including temperature, humidity, and flow rates
- ❑ Extremely fast response without overshoot for accuracy during transients
- ❑ 99.99%+ uptime with minimal maintenance required
- ❑ Non-contact measurement sensor guarantees accuracy and stability
- ❑ Accuracy is independent of gas composition, contaminants and pressure
- ❑ Measurement accuracy & reliability are independent of flow rate
- ❑ No drift in calibration, even after incidental condensation in sample chamber
- ❑ Digital and analog output for easy integration into your hardware and software



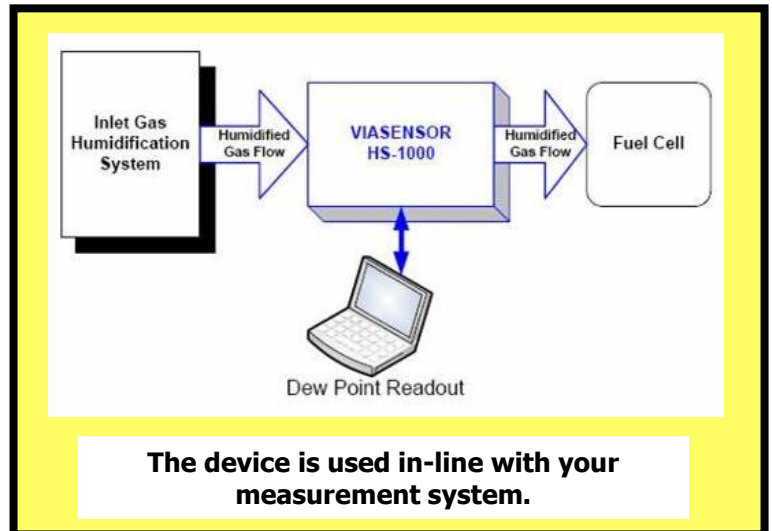
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Specifications

- ❑ Continuous monitoring of water partial pressure, dew point and chamber temperature
- ❑ Range: 40 mB to 1000 mB water vapor partial pressure (30°C to 100°C dew point)
- ❑ Accuracy +/- (2% reading + 1 mB)
- ❑ Max. sample cell temperature: 105°C
- ❑ Max. pressure: 30 psig (200 kPa)
- ❑ Ambient temperature range: 10°C to 30°C
- ❑ Wetted materials: nickel plated aluminum, sapphire, epoxy
- ❑ AC power: 90 to 240 VAC, 1 A, 50 to 60 Hz
- ❑ Dimensions and weight
 - Sample cell: 6" x 6" x 2" (15 x 15 x 5 cm³), 1.7 lb (0.8 kg)
 - Electronics: 8.8" x 10" x 3.5" (22 x 25 x 9 cm³), 3.8 lb (1.7 kg)
- ❑ Digital (RS232) or optional analog (0-5VDC) output
- ❑ Setup and data collection software included



Heated sample chamber with simple flow-through design minimizes condensation and contaminant effects. With no disassembly required for cleaning, uptime is over 99.99%.



The ViaSensor™ HS-1000 measurement portion is readily placed in-line. Before the cell you get an accurate inlet water content (versus assumed content from gas temperature). Placing the HS-1000 after the cell/stack provides quantitative measurement of efficiency/fuel utilization.

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