Fast HF measurements in air.
Anywhere.

New

Hydrogen Fluoride Analyzer (model HFA-23)

Features and Benefits

• Fastest response: 1-Hz measurements: allow observation of transient and time varying flows
• Measures a wide range of concentrations
• High-resolution absorption spectra always viewable
• Low power: ideal for field applications
• New Enhanced Performance model provides ultra-low drift

LGR’s Hydrogen Fluoride Analyzer (HFA) provides sensitive measurements of HF in ambient air or in industrial process flows with extremely high precision and sensitivity. No longer do you have to spend a lot of money or wait a long time to measure hydrogen fluoride gas with high sensitivity – LGR’s Hydrogen Fluoride Analyzer provides measurements every second with ppb-level precision. In addition, the HFA can report measurements quickly over a very wide range of HF concentrations.

LGR’s HFA is available in three packaging options to allow users to select the package most suitable for their needs. LGR’s benchtop package includes an embedded keyboard, mouse, and video monitor. LGR’s rackmount package fits in a standard instrumentation rack and requires an external keyboard, mouse, and video monitor. LGR’s ultra compact A4 package, developed for UAV flight measurements, provides the opportunity for measurements in applications requiring extreme portability. In addition, a suite of options and accessories expands the usability for just about any application.

The HFA uses LGR’s patented Off-axis ICOS technology, a fourth-generation cavity enhanced absorption technique. Off-axis ICOS has many advantages over conventional cavity ringdown spectroscopy (CRDS) techniques such as being alignment insensitive, having a much shorter measurement time, and not requiring expensive and power consuming auxiliary components.

As with all LGR instruments, the HFA includes an internal computer (Linux OS) that can store data practically indefinitely on its internal hard drive (for unattended long-term operation), and that can send real-time data to a data logger through its analog, digital (RS232) and Ethernet outputs.

Furthermore, the HFA may be controlled remotely via the Internet. This capability allows the user to operate the analyzer using a web browser practically anywhere Internet access is available. Furthermore, remote access allows bios-level control of the instrument and provides the opportunity to obtain data and to diagnose the instrument operation without being on site.
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Performance Specifications

**Precision** (1σ, 1 sec / 100 sec):
1 ppbv / 0.1 ppb

**Maximum Drift** (Enhanced Performance model)
(15 min average, at STP, over 24 hrs):
0.2 ppb

**Measurement Range** (meets all specs):
5 – 2000 ppb

**Operational Range**
(external calibration may be required):
0 – 10 ppm

**Measurement Rates** (user selectable):
0.01 – 1 Hz
(external pump required for <25 second flow response)

**Sampling Conditions:**
- Sample Temperature: 0 – 50 °C
- Operating Temperature: 5 – 45 °C
- Ambient Humidity: 0-100% RH non-condensing

**Outputs:**
- Digital (RS232), analog, Ethernet, USB

**Power Requirements:**
- 115/230 VAC, 50/60 Hz or 12 VDC
- Standard model: 100 watts
- Enhanced Performance model: 300 watts on startup; 150 watts (steady state)

**Dimensions:**
- Benchtop Package (Standard model): 10” × 38” × 14”
- Rackmount Package (Standard model): 8.75” × 19” × 24”
- Rackmount Package (Enhanced Performance model): 14” × 19” × 24”

**Weight:**
- 65 pounds (Standard model)
- 90 pounds (Enhanced Performance model)

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**Ordering Information**

907-0017: Rackmount model
908-0017: Benchtop model
911-0011: Enhanced Performance model

**Accessories**

908-0003-9001: Multiport Inlet Unit – Automated control of up to 16 inlet ports
908-0003-9002: Multiport Inlet Unit – Automated control of up to 8 inlet ports
908-0001-9011: N920 Pump – Flow-through time = 1.2 seconds