



F&J SPECIALTY PRODUCTS, INC.

The Nucleus of Quality Air Monitoring Programs

EMERGENCY RESPONSE MOBILE HIGH VOLUME AIR SAMPLING SYSTEM MODEL GAS-ERHV-DT

NOTABLE FEATURES:

- Precision machined DP flow sensor
- State-of-the-Art electronics
- Vacuum fluorescent display (VFD); 4 lines×24 characters
- Flow rate and Volume measurements corrected to operator selectable Reference Temperature and Pressure
- Automatic flow control
- Operator selectable units of measurement
- Dual RS-232 communication ports
- Flow rate accuracy: $\pm 3.0\%$ Full Scale
- Auto zero calibration feature of flow sensor
- Continuous or periodic sampling mode
- Multiple operator selectable data storage rates
- Display of Multiple on-board calculations
- Powerful 1100 Watt motor
- Meets or exceeds the USEPA requirements in 40CFR50 Appendix B
- 100-120VAC; 50/60Hz, single phase



GAS-ERHV-DT
Global Air Sampler
Electronic Flow Management System
Mobile High Volume Air Sampler

GENERAL DESCRIPTION:

The GAS-ERHV-DT Series Air Sampling Systems are designed for temporary or emergency response continuous air sampling applications. The GAS-ERHV-DT Series Air Samplers feature a brushless motor with electronic motor speed control that maintains a user selectable flow rate. The flow rate range attainable through the filter media is dependent upon the air porosity of the filter media. Flow rates as high as 119 m³/hr (70 CFM) are attainable with certain some glass fiber filter media. The GAS-ERHV-DT Series design accommodates rapid field service and component replacement.

For mobility, the air sampler is housed in a rugged weather resistant polypropylene enclosure with wheels and multiple handles. The tripod, accessories and consumables are stored in an identical heavy duty polypropylene case. The air sampler is connected to the discharge port of the filter holder mounted on the tripod by a rugged flexible plastic hose. The GAS-ERHV-DT model utilizes an 8"×10" (20,3×25,4 cm) filter. The 8" x 10" (20,3cm x 25,4cm) filter holder is stored in its own enclosure.

The electronic flow control measurement sub-system of the GAS-ERHV-DT Series provides an operator selectable reference standard corrected flow measurement and a constant flow of air through the filter medium. The air flow rate is measured by a precision-machined DP sensor. The controller can be readily set to any sampling flow rate between 17 - 119 m³/hr (10 – 70 CFM). The flow rate obtainable depends on the filter paper air flow resistance. The bright VFD readout displays multiple air sampling information including current flow rate, average flow rate, current temperature and totalized volume. Optional software is available to download air-sampling data via an RS-232 port. The software provides a monitoring report, file creation and setup via a laptop computer.

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Performance:

Basic components of the system are modular and independently serviceable.

Technology: Microprocessor controlled state-of-the-art electronics

Operating Temperature Range: 0°F* to 122°F (-17°C* to 50°C)
* warm start/continuous operation

Operating Relative Humidity: 0 – 95% RH

Typical Flow Rate Range: 17 - 119 m³/hr (10 – 70 CFM)
(Depending on filter paper air flow resistance).

Motor: Brushless: 1.5 H.P. (1100 Watt) motor with electronic motor speed control

Power: 100-120VAC; 50/60Hz; 9.5 amperes; single phase.

Housing: Heavy duty polypropylene case with strong ABS latches and wide-track polyurethane Wheels. Features stainless steel pins, hardware, and padlock protectors.

Dimensions Case 1 & 2: [48.00in x 17.00in x 14.00in (121.92cm x 43.18cm x 35.56)]

Dimensions Case 3: [20.5in x 20.5 x 20.5 (52.07cm x 52.07cm x 52.07cm)]

Weight: 53 lbs. (24.0 kg.) Case 1; 40 lbs. (18.1 kg.) Case 2; 19.4 lbs. (8.7 kg.) Case 3

Shipping Weight: 75 lbs. (34.0 kg.) Case 1; 50 lbs. (22.7 kg.) Case 2; 25.2 lbs. (11.4 kg.) Case 3

Installation Category: Pollution Degree 3

Enclosure Rating: IPX3

Automatic Flow Control:

The system microprocessor monitors flow rate relative to the operator selectable preset Reference T and P corrected flow rate established during the setup procedure and electronically adjusts the electronic motor speed adjustment, if necessary, to maintain the flow within $\pm 3.0\%$ of setting. The microprocessor computes the Reference flow rate by correcting the measured values of temperature and pressure to the reference values.

On-Board Measurement, Calculations and Other System Features

Measurements:

- Temperature of air flow through system
- Inlet pressure to the flow sensor
- Differential Pressure of the flow sensor
- Ambient pressure

Calculations/Determinations:

- Totalized volume, STP
- Current flow rate, STP
- Minimum and maximum temperature
- Minimum and maximum inlet pressure
- Elapsed time
- Selectable ambient flow rate and volume

Optional Items:

- Optional data acquisition software to download data from instrument to PC after completion of sampling activity
- Ruggedized Cellular Telephone

Other System Features:

- Display of data in English or metric units by selection
- Automatic shut off of system on totalized volume or elapsed time
- Real time clock with battery backup
- Various data storage options
- Dual password protection
Operator password
System Administrator password
- Periodic sampling scenario based on periods within a week selectable by the user
- Utilization of 8"×10" (20,3×25,4 cm) rectangular filters
- Vacuum Fluorescent Display; 4lines × 24 characters
- Operator Selectable Temperature & Pressure for data correction to standard condition.
- Dual RS232 and one USB (Type B) communication ports

**TYPICAL MAXIMUM FLOW RATES
1100 WATT VACUUM SYSTEM**

STANDARD F&J HINGED 8 X 10 FILTER HOLDER						
Filter Paper (8" X 10")	Maximum Flow Rate (m³/hr)		Maximum Flow Rate (L/min)		Maximum Flow Rate (ft³/min)	
	60 Hz	50 Hz	60 Hz	50 Hz	60 Hz	50 Hz
FP810	130	108.2	2175	1811.7	76.8	63.9
FP810M	165	137.4	2765	2303.2	97.6	81.3
GC508X10IN	120	99.9	2013	1676.8	71.1	59.2
5211810	136	113.2	2278	1897.5	80.4	66.9
GC908X10IN	132	109.9	2215	1845.0	78.2	65.1
PG60	136	113.2	2278	1897.5	80.4	66.9
EPM2000	131	109.1	2185	1820.1	77.1	64.2
GA558X10IN	125	104.1	2088	1739.3	73.7	61.3
WH4140	126	104.9	2108	1755.9	74.4	61.9
C-569 (Yellow)	136	113.2	2280	1899.2	80.5	67.0
C-577 (Pink)	111	92.4	1855	1545.2	65.5	54.5
0054-0810	131	109.1	2195	1828.4	77.5	64.5
OR1008X10IN	112	93.2	1876	1562.7	66.2	55.1

Additional Operator Selectable Features Provided by The Global Air Sampling System Product Line

Language Options:	English
Sampling Mode:	Volumetric Flow or Mass Flow
Gas Type:	Air, O ₂ , N ₂ , H ₂ , CO, CO ₂ , C ₃ H ₆ , He, NH ₃
Engineering Units	
Volumetric Flow:	sccm, SLPM, SCFM, sm ³ /min, sm ³ /hr
Mass Flow:	kg/hr, g/min, lbs/hr
Temperature:	°C, °F
Pressure:	In. Hg, mm Hg, bar, mbar, atm, kPa, hPa
Reference T and P	
Reference T:	0°C, 15°C, 20°C, 21.1°C (70°F), 25°C
Reference P:	101.325 kPa (760 mm Hg), 100 kPa (1bar)
RS232 Data Output Frequency:	1 sec, 1 min, 10 min, 20 min, 30 min, 1 hr
Data Storage Frequency:	1 min, 10 min, 20 min, 30 min, 1 hr
Operating Mode:	Continuous, Periodic
Periodic Sampling Options:	1 hr. (12 five minute periods), or weekly (24 one hour periods for 7 days)
Ending Mode:	By time, By volume
Operator Selectable Passwords:	2 levels
Date and Time Setup	Input of real time and date
Alarm Settings	Flow, Inlet pressure, temperature, inlet pressure drop