



## F&J SPECIALTY PRODUCTS, INC.

*The Nucleus of Quality Air Monitoring Programs*

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# GLOBAL AIR SAMPLING SYSTEM

## F&J MODEL GAS-60810D

### NOTABLE FEATURES:

- Precision machined DP flow sensor
- State-of-the-Art electronics
- Vacuum fluorescent display; 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: ±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



### GENERAL DESCRIPTION:

The GAS-60810D Series Air Sampling Systems are designed for remote unattended continuous air sampling applications. The GAS-60810D 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 117 CFM (200 m<sup>3</sup>/hr) are attainable with glass fiber filter media. The GAS-60810D Series design accommodates rapid field service and component replacement.

For durability and weather resistance, the system is housed in a freestanding powder coat painted aluminum enclosure. The sample air is drawn in under the eaves of the hinged lid from all four sides and is exhausted near the bottom of the enclosure. The locking swing door on the enclosure provides convenient access for servicing the equipment inside. A lockable latch on the top cover restricts unauthorized tampering with the filter holder.

The electronic flow control measurement sub-system of the GAS-60810D Series provides an operator selectable reference standard corrected flow measurement and a constant flow of air through the filter medium. The air velocity is measured by a precision-machined DP sensor. The controller can be readily set to any sampling flow rate between 18 – 117 CFM (30 – 200 m<sup>3</sup>/hr). The flow rate obtainable depends on the filter paper air resistance and dimensions. The bright VFD readout displays multiple air sampling information including current flow rate, average flow rate, current temperature and totalized volume. The filter holder can be custom designed to accommodate many large filter size and type. The GAS-60810D standard model utilizes an 8”×10” (20.3×25.4 cm) filter. 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.

# GAS-60810D (100 – 120VAC)

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## Performance:

Basic components of the system are modular and independently serviceable. Sample flow rate can be set between 18 – 117 CFM (30 - 200 m<sup>3</sup>/hr). The standard filter holder has the dimensions 8”×10” (20.3×25.4 cm).

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

**Operating Temperature Range:** -20°F to 122°F (-29°C to 50°C)

**Typical Flow Rate Range:\*** 18 – 117 CFM (30 to 200 m<sup>3</sup>/hr)  
(Depending on filter paper dimensions and air resistance)

\* Approximate value for FP810M glass fiber filter media

**Ultimate Vacuum:** 22.2 kPa (89.21 inches H<sub>2</sub>O)

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

**Power Requirements:** 100-120VAC; 50/60Hz; 20 amperes; single phase.

**Housing:** Powder coat painted aluminum      Locking hinged cover  
Removable hinged cover      Locking swing door with key

**Dimensions:** 57.5”H × 21.5”W × 21.5”D      (146H × 54.6W × 54.6 cm D)

**Weight:** Approximately 98 lbs. (44.5 kg)

**Shipping Weight:** Approximately 150 lbs. (68.2 kg)

**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 ± 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 communications software to download data from instrument to PC after completion of sampling activity

### 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
- Dual RS-232 communication ports
- 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