



F&J SPECIALTY PRODUCTS, INC.

The Nucleus of Quality Air Monitoring Programs

GLOBAL AIR SAMPLING SYSTEM F&J MODEL GAS-60810DT

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
- Standard flow rate accuracy: $\pm 3.0\%$ Full Scale
- Custom flow calibration to 1% of reading
- 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
- Custom accuracy $\pm 2\%$ of reading available



GENERAL DESCRIPTION:

The GAS-60810DT Series Air Sampling Systems are designed for remote unattended continuous air sampling applications. The GAS-60810DT 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. The GAS-60810DT 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-60810DT 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 within the calibrated flow range. 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-60810DT 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.

Rev.: 10 August 2021

GAS-60810DT Global Air Sampling System (100—120 VAC)

Basic components of the system are modular and independently serviceable. Sample flow rate can be set to any value within the calibrated flow range. 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: 0°F to 122°F (-17°C to 50°C)
Typical Flow Rate Range:* 34 to 170 m³/hr (20 – 100 CFM)
(Depending on filter paper dimensions and air resistance)
* Approximate value for FP810M glass fiber filter media

Ultimate Vacuum: 22.2 kPa (89.21 inches H₂O)
Motor: Brushless: 1.5H.P. (1100 Watt) motor with electronic motor speed control
Power Requirements: 100-120VAC; 50/60Hz; 12 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 Full Scale with the standard calibration, or 2% At Reading for a flow range of 0.6 m³/min to 1.0 m³/min with the optional custom calibration. 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
- Optional custom flow calibration to 3% At Reading

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
- Operator Selectable Temperature & Pressure for data correction to standard condition.

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

Close Up Photos of Control Box

