



F&J SPECIALTY PRODUCTS, INC.

MEGA HIGH VOLUME AIR SAMPLER SYSTEM F&J MODEL DF-60810-MHV

NOTABLE FEATURES:

- Display in English or metric units set at factory
- Choices of flow/volume units:
SLPM SL
SCMH SCM
SCFM SCF
- State of the Art microprocessor electronics
- Automatic Flow Control
- Auto Shut-off on time or volume
- Flowrate and volume totalizations displayed are corrected to a factory settable Reference Temperature and Pressure (4 options available)
- Elapsed time meter
- Auto zero calibration feature of flow sensor
- Bright LED display
- Flow rate accuracy within $\pm 4.0\%$ F.S.
- RS-232 Communication Port w/Operator selectable download frequency for real-time data collection or transmission
- 100 – 120 VAC, 50/60Hz; single phase



GENERAL DESCRIPTION:

The DF-60810-MHV Series Air Sampling Systems are designed for remote unattended continuous air sampling applications. The DF-60810-MHV Series Air Samplers feature a brushless motor with electronic motor speed control that maintains a user selectable flow rate. The flow rate attainable through the filter media is dependent upon the air porosity of the filter media. Flow rate as high as 170 CFM (289 m³/hr) are attainable with glass fiber filter media.

The DF-60810-MHV Series design accommodates rapid field service and component replacement. The basic components of the system are assembled in a modular fashion so that each component can be readily and independently removed for service.

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 DF-60810-MHV Series provides a reference standard flow measurement and an operator selectable constant flow of air through the filter medium. The air flow is measured by a precision-machined differential pressure sensor. The controller can be readily set to any sampling flow rate between 50 and 170 CFM (84-289 m³/hr) depending on the filter paper air resistance and dimensions. The bright LED readout displays multiple air sampling information including current flow rate, current elapsed sample time and totalized volume. The filter holder can be custom designed to accommodate any filter size and type. The DF-60810-MHV standard model utilizes an 8"×10" (20.3×25.4 cm) filter.

DF-60810-MHV Specifications

Performance:

Basic components of the system are modular and independently serviceable. Sample flow rate can be set between 50 and 170 CFM (84 and 289 m³/hr). The standard filter holder has the dimensions 20.3×25.4 cm (8"×10").

Technology: Microprocessor controlled state of the art electronics

Operating Temperature Range: -31°F* to 122°F (-35°C* to 50°C)
*warm start/continuous operation

Operating Relative Humidity: 0 – 95% RH

Typical Flow Rate Range: 50 – 175 CFM (84 to 300 m³/hr)
(Depending on filter paper dimensions and air resistance).

Motor: Brushless: 2.4H.P.(1800 Watt) motor with electronic motor speed control

Power Requirements: 100-120VAC; 50/60Hz; 25 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 (146 H × 54.6 W × 54.6 cm D)

Average dB: 89.8

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 preset Reference T and P flow rate established during the setup procedure and electronically adjusts the electronic motor speed adjustment, if necessary, to maintain the flow within ± 4% of setting. The microprocessor computes the STP flow rate by correcting the measured values of 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

Calculations/Determinations:

- Totalized volume, Reference T and P
- Current flow rate, Reference T and P
- Elapsed time

Factory Settable Reference T and P

Classical STP 0°C, 101.325 kPa
Normal T and P 20°C, 101.325 kPa
Modified Normal T and P 70°F, 101.325 kPa
Standard Ambient T and P 25°C, 101.325 kPa

Other System Features:

- Automatic shut off of system on totalized volume or elapsed time
- RS-232 port for real-time data download
- Utilization of 8"×10" (20.3×25.4 cm) filters
- Bright LED display
- Automatic flow control

Data Storage System:

- Data Storage Device (P/N: 232FCDS D)
- 2 GB Secure Digital Card (P/N: 372239)

Options:

- Flash Card Reader (P/N:SDDR-199-A20)