



## F&J SPECIALTY PRODUCTS, INC.

*The Nucleus of Quality Air Monitoring Programs*

# ENVIRONMENTAL GLOBAL LOW VOLUME AIR SAMPLER MODEL GAS-2234E



Full view illustrating  
the exterior



View inside  
weatherhouse  
illustrating digital  
flowmeter



### NOTABLE FEATURES:

- Precision machined DP flow sensor
- State-of-the-Art electronics
- Vacuum fluorescent display; 4 line × 24 characters
- Flow rate and volume measurements corrected to operator selectable Reference Temperature and Pressure
- Constant air flow regulator
- Display in English or various metric units
- Dual RS-232 communication ports
- Flow rate accuracy:  $\pm 3.0\%$  Full Scale
- Auto zero calibration feature of flow sensor
- Various operator selectable sampling modes
- Multiple operator selectable data storage and data transmission frequency rates
- Display of Multiple on-board calculations
- Wide temperature range electronics

### GENERAL DESCRIPTION:

The Model GAS-2234E Global Air Sampling System is a microprocessor controlled low-volume air sampler consisting of an oil-less, carbon vane vacuum pump, with a constant airflow regulator for use where a nearly constant airflow is desirable. The regulator holds a constant pressure drop across an in-line orifice, by varying the flow through a bypass valve into the pump. This system allows the pump to work at a minimum head drop at all times, permitting it to run cooler, thus extending its service life. The oil-less pump requires no lubrication to maintain optimal efficiency during its service life. The pump is mounted on a removable base plate, which can be secured within the GFCI protected aluminum environmental Weatherhouse, model WH-3 having an enclosure rating of IPX3.

The GAS-2234E utilizes a bright VFD that has four (4) lines by 24 characters and utilizes wide temperature range electronic components for use in extreme ambient conditions.

The GAS-2234E Global Air Sampling System is designed for continuous outdoor use. Please consult the product specifications for the design temperature range and the installation category.

The typical operating flow range is 1 to 8.5 CFM (28 – 240 LPM).

REV: 09 August 2022

# MODEL GAS-2234E LOW VOLUME AIR SAMPLER (220-240VAC)

## SPECIFICATIONS:

**PUMP TYPE:** Oil-less, carbon vane, 3/4 HP, 1725 RPM @ 60 Hz

**MAXIMUM CAPACITY:** 8,5 CFM (240 LPM) at 0" Hg  
Pressure drop.

**ULTIMATE VACUUM:** 25" (635 mm) Hg at sea level.

**POWER REQUIREMENTS:** 220-240VAC; 50/60 Hz @ 6  
amperes; single phase

**ELECTRICAL CORD:** All-temperature, 3-wire, 16 gauge

**FUSE PROTECTION:** 8 Amperes

**THERMAL OVERLOAD PROTECTION:** Furnished as an  
integral part of the motor

**CONSTANT AIRFLOW REGULATOR:** Aluminum  
construction with silicone diaphragm; adjustable from  
1 to 8 CFM (28 - 226 LPM).

**HANDLES:** 2-steel, on base plate

**DIMENSIONS:** 81,3L x 66,0W x 122,6 cm H  
(32"L x 26"W x 48 1/4") with Legs

**WEIGHT:** 61 kg (135 lbs.)

**VOLUME TOTALIZER:** Volume totalizations corrected to operator selectable  
Reference conditions for T and P

## ELECTRONIC SPECIFICATIONS:

**Air flow** ± 3.0% of full scale

**Temperature** ± 0.9°F (0,5°C)

**Barometric Pressure** 1% over measured range

**OPERATING TEMPERATURE:** 32° - 122° F (0° - 50° C)

**STORAGE TEMPERATURE RANGE;** -30° - 158°F (-34° - 70°C)

**CALIBRATION:** Operator calibration-  
verification 1 per year

**COMMUNICATIONS INTERFACE:** Dual RS-232

**DISPLAY:** VFD, 4x24 characters

## DATA STORAGE:

Simultaneous data storage of all measured parameters in non-volatile  
memory; time and date stamp on records. Data storage for continuous  
sampling

Optional reporting of all stored data and/or summary record for host  
computer

## ON-BOARD CALCULATIONS:

Flow calculation from differential pressure value using best fit curve  
method

Flow correction for operator selectable reference temperature and pressure  
Auto-zero correction utilizing electro-pneumatic method to compensate for  
offset and drift (automatic, once every minute)

Minimum and maximum values of measured parameters

**COMBINATION FILTER HOLDER:** Durable plastic  
combination filter holders for F&J Model B, C or M charcoal  
cartridges and 47 mm, 2" or 50 mm diameter particulate  
filter paper are available. All models have quick-disconnect  
function.

## STANDARD COMBINATION FILTER HOLDERS:

FILTER HOLDER MODEL	CHARCOAL CARTRIDGE DIMENSIONS	PARTICULATE PAPER DIAMETER
FJ-05P	F&J MODEL B	2" or 50 mm
FJ-21P	F&J MODEL C	2" or 50 mm
FJ-35P	F&J MODEL B	47 mm
FJ-46P	F&J MODEL C	47 mm
FJ-51P	F&J MODEL M	2" or 50 mm
FJ-53P	F&J MODEL M	47 mm

## PUMP CURVE

Top line on curve is for 60-cycle performance.  
Bottom line on curve is for 50-cycle performance.

