

# F&J SPECIALTY PRODUCTS, INC.

*The Nucleus of Quality Air Monitoring Programs*

## PORTABLE LOW VOLUME AIR SAMPLER WITH DIGITAL FLOW METER F&J MODEL DF-1-2G

### STANDARD FEATURES:

- Bright OLED display
- Flowrate and volume totalizations displayed are corrected to a factory settable Reference Temperature and Pressure (4 options available)

Classical STP	0°C, 760 mmHg
Normal T and P	20°C, 760 mmHg
Modified Normal T and P	21°C, 760mmHg
Standard Ambient T and P	25°C, 760 mmHg
- Reference and ambient flow conditions are displayed
- Elapsed time meter
- Storage of elapsed time and volume in the event of power outage
- Auto Shut-off on time or volume
- Choices of flow/volume units:

SLPM	SL
SCMH	SCM
SCFM	SCF
- Display in English or metric units set at factory
- 2nd Generation State of the Art microprocessor electronics
- Auto zero calibration feature of flow sensor
- Flow rate accuracy within  $\pm 4\%$  F.S.
- 100 – 120 VAC, 50/60Hz; single phase
- Internal Data Storage Downloadable as (.csv) file
- Data download via Type A USB port wired connection or through Bluetooth with optional Bluetooth Dongle for PC Device



### GENERAL DESCRIPTION:

The Model DF-1-2G portable air sampling system with a digital flowmeter is a low-volume air sampler consisting of oilless, carbon vane vacuum pump, with a mechanical constant air flow regulator for use where a nearly constant air flow 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 pressure drop at all times, permitting it to run cooler, thus extending its service life. The oilless pump requires no lubrication to maintain optimal efficiency during its service life. The pump is mounted on a base with four rubber feet. A handle is provided on the chassis to facilitate transportation.

The DF-1-2G Portable Air Sampling System is designed for continuous indoor use. Please consult the product specifications for the design temperature range and the installation category. Standard product displays flow rate, elapsed time and totalized volume by operator selection.

The typical operating flow range is 0.5 to 4 CFM (14 – 115 LPM).



DFM Main Screen Display

REV: 27 February 2025

# DF-1-2G Low Volume Air Sampler Specifications (100—120 VAC)

## SPECIFICATIONS:

**PUMP TYPE:** Oilless, carbon vane 1/4 HP, 50/60 Hz, 1 PH

**MAXIMUM CAPACITY:** 4 CFM (115 LPM) at 0" Hg  
Pressure drop

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

**POWER REQUIREMENTS:** 100 – 120VAC; 50/60 Hz;  
6 amperes, single phase

**CIRCUIT BREAKER PROTECTION:** 10 amperes

**ELECTRICAL CORD:** All-temperature, 3-wire, 14 gauge

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

**CONSTANT AIRFLOW REGULATOR:** Aluminum  
Construction with silicone diaphragm; adjustable from 0.5 to  
4 CFM (14-115 LPM)

**HANDLE:** Black Painted Steel

**DIMENSIONS:** 16"L×7 1/2"W×13 1/4"H (40,6×19×33,6 cm)

**NOISE LEVEL:** Average dB 67.0 @ 1 meter

**WEIGHT:** 36 lbs. (16,36 kg)

**INSTALLATION CATEGORY:** Pollution Degree 2

**OPERATING TEMPERATURE RANGE:**  
32- 104°F (0 - 40°C)

## ELECTRONIC SPECIFICATIONS:

### MEASUREMENT ACCURACY:

Air flow	± 4.0% of full scale
Temperature	± 2°F (1.1°C)
Barometric Pressure	2% over measured range

**CALIBRATION:** Factory calibration 1 per year

### ON-BOARD CALCULATIONS:

Flow calculation from differential pressure value using best fit curve  
method

Flow correction for standard temperature and pressure

Auto-zero correction utilizing electro-pneumatic method to compensate  
for offset and drift (automatic, once every minute)

## OPTIONS:

Bluetooth Dongle for PC Device (P/N: BTDG)

## 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:

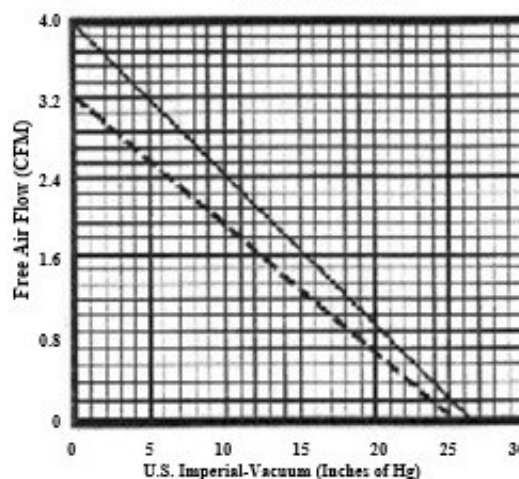
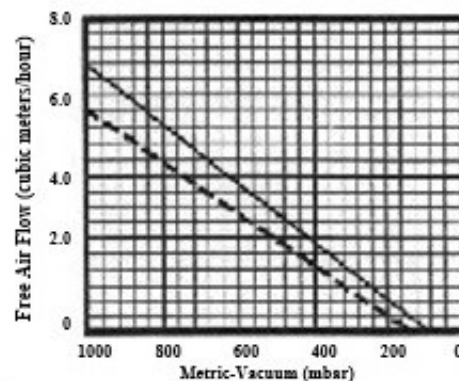
<u>FILTER HOLDER MODEL</u>	<u>CHARCOAL CARTRIDGE DIMENSIONS</u>	<u>PARTICULATE PAPER DIAMETER</u>
FJ-05P	F&J Model B	2" or 50 mm
FJ-21P	F&J Model C	2" or 50 mm
FJ-35P	F&J Model B	47 mm
FJ-46P	F&J Model C	47 mm
FJ-51P	F&J Model M	2" or 50 mm
FJ-53P	F&J Model M	47 mm

## PUMP CURVE

Top line on curve is for 60-cycle performance

Bottom line on curve is for 50-cycle performance

1425 RPM @ 50Hz  
1725 RPM @ 60Hz



CONSTANT AIR FLOW REGULATOR CURVE  
TYPICAL PUMP OPERATING FLOW RANGE

