



F&J SPECIALTY PRODUCTS, INC.

The Nucleus of Quality Air Monitoring Programs

PORTABLE LOW VOLUME AIR SAMPLER w/ DIGITAL FLOWMETER MODEL DF-1 Series



STANDARD FEATURES:

- Bright LED 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	21,1°(70°F), 760mmHg
Standard Ambient T and P	25°C, 760 mmHg
- Reference or ambient flow conditions are operator selectable
- Elapsed time meter
- RS-232 Communication Port w/Operator selectable download frequency for real-time data
- 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
- State of the Art microprocessor electronics
- Auto zero calibration feature of flow sensor
- Flow rate accuracy within $\pm 4.0\%$ F.S.
- 110 – 120 VAC, 50/60Hz; single phase

GENERAL DESCRIPTION:

The Model DF-1 portable air sampling system with a digital flowmeter is a low-volume air sampler consisting of oil-less, 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 oil-less 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 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).

DF-1 DIGITAL LOW VOLUME AIR SAMPLER (110 – 120 VAC)

SPECIFICATIONS:

PUMP TYPE: Oil-less, carbon vane 1/4 HP, 1725 RPM @ 60 Hz

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

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

POWER REQUIREMENTS: 110 – 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)

AVERAGE dB: 67.0

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:

- Data Storage Device (P/N: 232FCDS D)
- 2+ GB Secure Digital Card (P/N: 372239)
- Flash card Reader (P/N: SDDR-199-A20)

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.

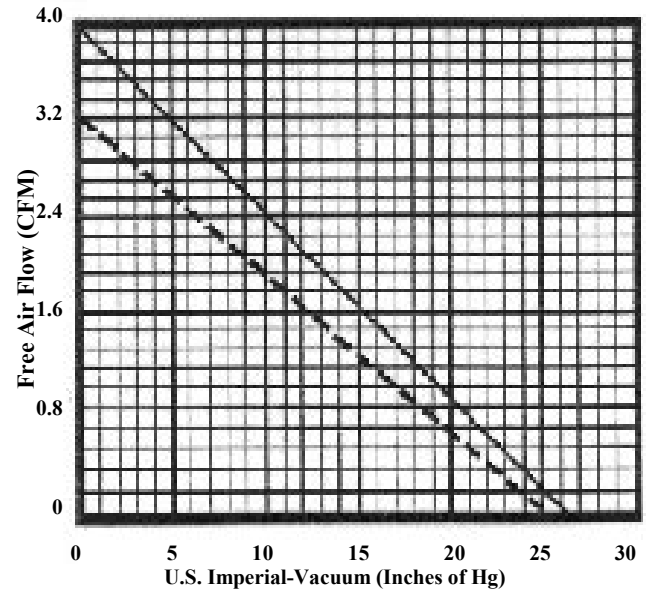
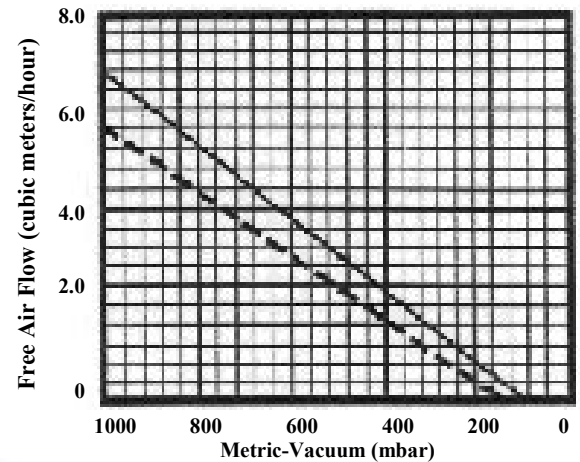
STANDARD COMBINATION FILTER HOLDERS:

<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



CONSTANT AIR FLOW REGULATOR CURVE TYPICAL PUMP OPERATING FLOW RANGE

