F&J SPECIALTY PRODUCTS, INC.

The Nucleus of Quality Air Monitoring Programs

# PORTABLE LOW VOLUME AIR SAMPLER w/ DIGITAL FLOWMETER MODEL DF-134 Series



### **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
- Flowrate and volume totalizations displayed are corrected to a factory settable reference Temperature and Pressure (4 options available) Classical STP
  Normal T and P
  Modified Normal T and P
  Standard Ambient T and P
- Ambient or reference flow is selectable by operator
- Elapsed time meter
- Auto zero calibration feature of flow sensor
- Bright LED display
- > Flow rate accuracy within  $\pm 4\%$  F.S.
- RS-232 Communication Port w/Operator selectable download frequency for real-time data
- Auto Shut-off on time or volume
- ▶ 100 120 VAC, 50/60Hz; single phase

## **GENERAL DESCRIPTION:**

The Model DF-134 portable air sampling system with a digital flowmeter is a lowvolume air sampler consisting of an oil-less, carbon vane vacuum pump, with a 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 facilitate provided on the chassis to transportation.

The DF-134 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 and elapsed time

The typical operating flow range is 1 to 8 CFM (28 - 226 LPM).

**REV:** 14 Sep. 2016

# DF-134 DIGITAL LOW VOLUME AIR SAMPLER (100 – 120 VAC)

#### **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: 100 - 120VAC; 50/60 Hz;

9 amperes, single phase **FUSE PROTECTION:** 

15 amperes slow blow

**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 1 to 8 CFM (28-226 LPM)

HANDLE: **Black Painted Steel** 

**DIMENSIONS:** 22"L×8"W×18 ½ "H  $(56 \times 20 \times 43 \text{ cm})$ 

WEIGHT: 64 lbs. (29,1 kg)

**INSTALLATION CATEGORY:** Pollution Degree 2

**OPERATING TEMPERATURE RANGE:** 

 $32^{\circ} - 104^{\circ}F$  (0° - 40°C)

#### **ELECTRONIC SPECIFICATIONS:**

#### **MEASUREMENT ACCURACY:**

| Air flow            | $\pm$ 4% of f | ull scale      |
|---------------------|---------------|----------------|
| Temperature         | $\pm 2^{o}F$  | (1.1°C)        |
| Barometric Pressure | 2% over 1     | measured range |

**CALIBRATION:** Factory calibration 1 per year

#### **ON-BOARD CALCULATIONS:**

- Flow calculation from differential pressure value using best fit curve method
- Flow correction to reference temperature and pressure or ambient conditions
- Auto-zero correction utilizing electro-pneumatic method to compensate for offset and drift (automatic, once every minute)

#### **OPTIONS:**

| 232FCDSD     | Data Storage Device      |
|--------------|--------------------------|
| 372239       | 1 GB Secure Digital Card |
| SDDR-199-A20 | FlashCard Reader         |

#### **COMBINATION FILTER HOLDER:**

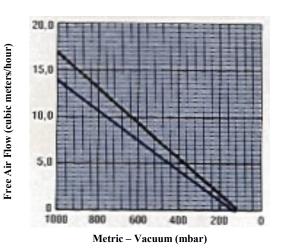
Free Air Flow (CFM) Durable plastic combination filter holders for F&J Model B, C or M charcoal cartridges and 47 mm, 2" or 50 mm diameter particulate filter paper are available. All models have quick-disconnect function.

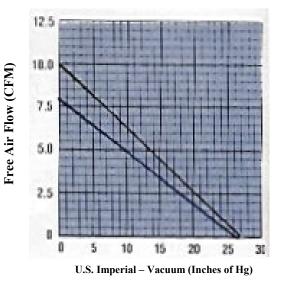
#### **STANDARD COMBINATION FILTER HOLDERS:**

| FILTER       | CHARCOAL          | PARTICULATE     |
|--------------|-------------------|-----------------|
| HOLDER       | CARTRIDGE         | PAPER           |
| <b>MODEL</b> | <b>DIMENSIONS</b> | <b>DIAMETER</b> |
| 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 10 **VPICAL PUMP OPERATING FLOW RANGE** 9 8 7 6 5 4 CONSTANT FLOW REGION 3 2 1 0 500 600 0 100 200 300 400 700 Vacuum at Pump Intake (mm Hg)

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