



# F&J SPECIALTY PRODUCTS, INC.

*The Nucleus of Quality Air Monitoring Programs*

## DIGITAL FLOW METER SYSTEM F&J MODEL: DF-PM2.5DTE

### NOTABLE FEATURES:

- Size selective inlet (<2.5 micron cut size)
- 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
- Flow rate and volume totalizations displayed are corrected to a factory settable Reference Temperature and Pressure
- Elapsed time meter
- Standard 8"×10" (20.3 cm×25.4cm) filter holder
- Bright LED display
- Flow rate accuracy within ± 4.0% F.S.
- RS-232 Communication Port w/Operator selectable download frequency for real-time data
- 220 – 240 VAC, 50/60 Hz; single phase



### GENERAL DESCRIPTION:

The DF-PM2.5DTE high volume PM2.5 Air Sampling System is designed for remote unattended continuous air sampling applications. The DF-PM2.5DTE Air Sampler features a brushless motor with electronic motor speed control that maintains a user selectable flow rate. The flow rate range attainable through the filter media is dependent upon the air porosity of the 20.3 cm × 25.4 cm (8" × 10") filter media. The DF-PM2.5DTE 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. The DF-PM2.5DTE system can easily be converted to a TSP system with the proper accessories.

For durability and weather resistance, the system is housed in a freestanding powder coated epoxy finished aluminum enclosure. The sample air is drawn into the size selective inlet head from a full 360° radius and is exhausted near the bottom of the enclosure. The locking swing door on the enclosure provides convenient access for servicing the equipment inside.

The electronic flow control measurement sub-system of the DF-PM2.5DTE air sampler provides a corrected flow measurement to a reference T and P or ambient conditions. The air flow is measured by a precision-machined differential pressure sensor. The controller can be set to a maximum sampling flow rate value within the calibrated flow range depending on the filter paper air resistance. The bright LED readout displays multiple air sampling information including current flow rate, current elapsed sample time and totalized volume. The DF-PM2.5DTE model utilizes a 20,3×25,4 cm (8"×10") filter media.

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**Performance:**

Basic components of the system are modular and independently serviceable. Sample flow rate can be set to a value within the calibrated flow range. Filter holder is a 20.3×25.4 cm (8"×10") diameter standard.

**Technology:** Microprocessor controlled state-of-the-art electronics

**Operating Temperature Range:** 0°F to 122°F (-17°C\* to 50°C)  
\* warm start continuous operation

**Typical Flow Rate Range:** 20 to 50 CFM (34 to 85 m<sup>3</sup>/hr)  
(Depending on filter paper dimensions and its air flow resistance)

**Motor:** Brushless: 1.5 H.P. (1100 Watt) motor with electronic motor speed control

**Power:** 220-240 VAC; 50/60 Hz; 6 amperes; single phase.

**Housing:** Powder coat painted aluminum Locking swing door with key

**Dimensions:** 74,5"H x 28"W x 28"D (186 cm H × 71.1cm W × 71.1cm Depth)

**Weight:** Approximately 138 lbs. (62,7 kg)

**Shipping Weight:** Approximately 190 lbs. (86,4 kg)

**Installation Category:** Pollution Degree 3

**Enclosure Rating:** IPX3

**Automatic Flow Control:**

The system microprocessor monitors flow rate relative to the preset STP flow rate established during the setup procedure and electronically adjusts the electronic motor speed adjustment, if necessary, to maintain the flow within ± 4.0% of setting. The microprocessor computes the STP flow rate by correcting for temperature and pressure of the actual flow rate to one of four user

## 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, STP
- Current flow rate, STP
- Elapsed time

**Factory Settable Reference T and P**

- Classical STP 0°C, 1 Atm
- Normal T and P 20°C, 1 Atm
- Modified Normal T and P 70°F, 1 Atm
- Standard Ambient T and P 25°C, 1 Atm

**Other System Features:**

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

**OPTIONS:**

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